

October 1943

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SUMERS' RESEARCH

Bulletin



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CONSUMERS' RESEARCH



Vol. 12 • No. 4

BULLETIN

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Off the Editor's Chest

BUTTER is scheduled to be more plentiful for civilian use during the coming months because beginning with October, the War Food Administration will eliminate its "take" of butter production entirely. This represents an additional concession from August, when the government cut down its set-aside order from 50 percent to 30 percent, and from September when it was further reduced to 20 percent. It might be mentioned also that cold storage facilities in large cities like New York and Chicago are taxed to capacity with government stocks.

It is estimated that when the butter roll-back went into effect this past June, nearly a million pounds of butter were sold to the government so that the creameries might obtain the government subsidy of 5 cents a pound. The Dairy Products Marketing Association, a government-financed agency, was willing, it appears, and was permitted to pay 5 cents a pound over the ceiling price set on butter for civilian use. No wonder civilians didn't get butter! Since the low ceiling price set by the OPA on butter makes it an unprofitable commodity to produce or handle, it is doubtful whether consumers will be noticeably better supplied under the reduced "take" of the government from production in the next few months unless they are fortunate enough to be served by a dealer who is determined to supply his customers even if he loses money on his sales of butter. The demand has been so great in certain sections that in January 1943, it was reported that farmers in the Detroit area—due to an oversight in the OPA's price fixing order—were able to charge and get as much as \$1.25 a pound for

butter. If under the law of supply and demand, which in these days of price-control and economic planning is supposed to be a thing of the past, butter can command such a high price, it seems obvious that butter price-fixed at 40 to 48 cents a pound, depending on the grade and the locality in which it is sold, is going to be and remain among our scarce and hard-to-find commodities.

Indeed, anyone with a memory for the various orders of the alphabet agencies bearing on the butter supply problem could have truthfully said of the present shortage, "The OPA planned it that way", for that agency authorized on December 14, 1942 an increase in the price of cream amounting to about one cent per half pint *for the avowed purpose of halting any abnormal diversion of butterfat from cream to butter.* Butter was at that time somewhat difficult to find in the retail stores and, as almost any housewife knows who has stood in line to get a quarter or half a pound of butter on the day a shipment is received by her local grocery store or dairy, it has been scarce ever since.

In August, as butter production dropped 8 percent below that of last year at the same period, dairy trade experts were predicting that the federal government would ban the sale of fresh cream throughout the nation. Although cream was greatly reduced in average quality when its maximum butterfat content was reduced by government order from 40 percent to 19 percent, consumption of cream has still continued to increase. No doubt many people are churning their own butter, which

(Continued on page 31)

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Symbols used to indicate sources of data and bases of ratings: A—recommended on basis of quality; AA—regarded as worthy of highest recommendation; B—intermediate with respect to quality; C—not recommended on basis of quality; cr—information from Consumers' Research's own tests or investigations; 1, 2, 3—relative prices, 1 being low, 3 high. Note that price and quality are completely differentiated in CR's listings; a quality judgment is independent of price; 42, 43—year in which test was made or information obtained or organized by the staff of Consumers' Research.

It will be advantageous if you will, whenever possible, send prompt notice of change of address at least a month before it is to take effect, accompanying your notice with statement of your old address with name in full. At least three weeks' notice must be given in any case. Long advance notice, however, is not required in the case of military personnel, whose changes of address will gladly be handled whenever and as often as needed.

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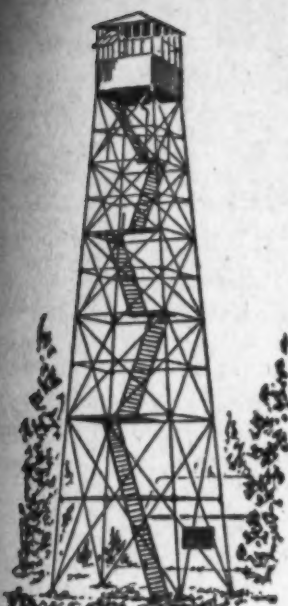
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The Consumers' Observation Post

WHALE-MEAT has made its appearance on the West Coast and is due to head East any day now. Retailing at a price of about 35 cents a pound and unrationed, it is claimed by its producers to taste much like beef. The fact that it was sold during the last war and then dropped out of sight when normal supplies of customary meats were again available, will make some people wonder if whale-meat really is the "perfect substitute" for beef.

* * *

PRESSURE CANNERS OF THE VICTORY model type are reported to be giving some difficulty where users have not followed directions carefully. One University of California nutrition specialist points out that one cause of trouble has been leaving the jars of food in the canner too long before opening the petcock. With the high vacuum formed when all the steam in the cooker has condensed, the lining of the two-piece lid of certain models pulled away from the top, making it necessary to send the canner back to the factory for repair. With any of the new pressure cookers, the user should open the petcock after three to five minutes at the most from the time the pressure gauge registers zero.

* * *

ALLERGY is coming to occupy such an important place in medical science that an American College of Allergists has recently been organized. Writing in this professional society's new journal, Dr. L. O. Dutton discusses the theory that appendicitis may be due to allergy in some cases. Functional swelling and engorgement of the appendix is similar to the swelling that characterizes other allergic reactions such as hay fever, for example. Dr. Dutton hastens to add however that appendicitis, when it comes, must be treated by surgery whether it has been caused by allergy or not.

* * *

WARTIME LUGGAGE is making its appearance in the shops. Production of leather-covered luggage and of luggage with steel frames was stopped by government order on July 1, 1943. Luggage of non-restricted materials made with wood frames and covered with water-repellent fabric is being offered as a substitute. One of the executives of the luggage dealers' trade association believes that frames of three-ply basswood will wear as well as steel but he is somewhat dubious about wood of other varieties. Unless the consumer who must have a new suitcase or bag can buy a bag which he knows to be of the best or three-ply basswood construction, he will probably be wise to shop for something from pre-war stock which has a steel frame.

* * *

DRY PERFUME is the current name for what Grandma called "sachet". Worn next to the body, it is said to be an economical source of fragrance and offers a timely solution to the current perfume shortage.

* * *

SUBSTITUTES FOR MEAT continue to be pushed although there is some indication that consumers prefer to take what meat they can get straight and not "extend" or "stretch" it with various types of fillers. One of the new products being developed, called "Proflo", is made from cottonseed meal, and is claimed to contain approximately 58 percent protein. As CR has long pointed out, it is somewhat dubious whether cottonseed oil is a desirable food fat for human beings. When used in feeding tests on livestock, it was discovered that the fat of the animals lost firmness and became abnormal in texture. Livestock producers have long had difficulties in feeding cottonseed meal beyond a certain

limited amount to animals. Consumers will be better off to let pigs and cattle work over such substances, so far as they can safely do so. If animals have trouble, human beings are certain to have difficulties also, and rather more serious ones on the whole.

* * *

MANNERS are important these days for those who would eat rationed foods. A Connecticut Congressman reports the case of one of his constituents who lost her ration books and promptly went to the OPA office for replacements, to be told that she could not secure new books for ten days. After she had made vigorous complaints in several quarters including the OPA office, she was finally informed that because of her attitude she would have to wait 60 days for new books. If that could happen under Chester Bowles when he was head of the Connecticut OPA, one can't be too hopeful about his humanizing and mitigating influence on the Washington, D.C., or national set-up. Consumers will just have to learn the proper approach—or write their Congressmen.

* * *

SOAP should be used to the last sliver these days. Those small pieces which are such a nuisance to keep track of, may all be dumped in a small jar and covered with water, according to one observing housewife. The partially dissolved and jelly-like soap may then be added to the family wash instead of soap flakes. If it does not dissolve readily, simmer the soap and water mixture gently on the stove until it becomes liquid.

* * *

DRY CLEANERS' problems are increasing by leaps and bounds. There is a serious shortage of nonflammable solvents. The small shops which cannot afford to install extra and expensive fire precautions required if they use the other types of solvents are the ones hit hardest. Transportation problems and wire hanger shortages also add headaches. In deciding how much and what kind of new clothing to buy, the consumer will be wise, perhaps, to keep in mind the extra time required to get things back from the dry cleaners and laundries these days.

* * *

The term VICTORY MODEL is on the way to becoming a term for a product of low quality. The Victory bicycles and the Victory ice refrigerators on the whole were poorly designed and generally unsatisfactory. National Petroleum News now reports that Victory tires are no longer being made because they did not wear well. In wartime, government officials should show due consideration for the actual and total costs when all factors are considered, including use of the product. It is surely unwise to require manufacturers to make inferior products on the one hand, and then on the other attempt to police or penalize reduction in quality of consumer goods which manufacturers and dealers sell. In many cases, it would be better not to make the product at all than to make it so badly that everyone concerned feels that he has an article or appliance which is little if any better than none at all.

* * *

INCREASED CONSUMER RESISTANCE to "ersatz" goods is being closely watched by farsighted merchants. The recent flurry of peace rumors put many retailers into a wary frame of mind about carrying too large a stock of garments made of inferior mixed fabrics and other substandard merchandise. Stocks of garments manufactured in pre-war days were so large that consumers on the whole have only recently begun to discover for themselves that quality, durability, and style of clothing have steadily deteriorated. Merchants realize that they will have difficulty disposing of substandard merchandise for which in many cases they have paid high prices, if consumers should decide to make what they have do until products of better quality are once more generally available.

* * *

MOTHS like warm weather, darkness, and a diet of wool, fur, hair, and feathers. They are most active from May to July, and during September and October, warns a bulletin from the University of Arizona. Be sure that woollen garments are put away clean with plenty of paradichlorobenzene or naphthalene flakes in tightly sealed packages or garment bags. Wool bathing suits, after they have been inspected to be sure there are no moth eggs in them, may be conveniently stored in Mason jars tightly capped. *(The continuation of this section is on page 29)*

To Buy or Not to Buy a Fur Coat

THIS IS NOT THE best year to buy a fur coat. The prices are about 30 percent higher than they were two or three seasons ago, and the 10 percent government excise tax is no small item to be added to the selling price. Since a number of stores, however, particularly those in industrial areas, report considerable sales activity in their fur departments, many people are evidently making good money in their war jobs. A survey of workers in war industries reported by a retail journal indicated that furs were high in their list of purchases.

One of the noticeable trends is that the better furs are selling ahead of those more popularly priced, as the trade puts it, and sales of mink coats are fairly heavy. The coat manufacturers are already complaining that it is getting to be difficult to secure certain furs, including Alaska seal, mink, civet cat, leopard, and ocelot. Alaska seal is caught under government-controlled operations, and due to the war only 127 skins were taken last year. This year, however, the catch was 117,164, so that the shortage of seal will be remedied as soon as this large number of skins has been processed and made available to the trade.

Some idea of the High Cost of Living may be gained by a quick look through the pages of Montgomery Ward's Fall and Winter catalog in which are listed a sheared beaver coat for \$605 and a hat to match at \$82.50 (tax included). The city fellers who have been accused of looking upon mail-order buyers as "hicks," used to getting along with second-rate articles, may well take notice.

Furs may be bought as a lifetime investment, as protection against cold weather, or as a fashionable item of dress. For all considerations except fashion, wearing quality or durability should be one of the items of first importance. In this connection it is well to bear in mind that garments made from the pelts of water animals will have a greater expectancy of long life. Winter fur is considered to be of better quality than summer fur as a rule, and furs from animals living in cold climates are to be preferred to warm weather animals.

Buying a fur coat and getting good value for the money spent is not easy except possibly for the expert. Some advise the prospective buyer to select the best furrier in her vicinity who has established a reputation for responsible fair dealing over a period of years and trust to his judgment. The observing person with a liking for shopping and plenty of time may prefer to make some comparisons of qualities and prices of coats available in a number of good stores.

First of all, keep in mind the fact that the Federal Trade Commission has issued trade regulations requiring that a fur garment be labeled with the actual name of the animal. Thus, sable-blended or mink-dyed muskrat is a muskrat that has been dyed to resemble mink or blended to look like sable. The term "blended" refers to a process by which dyes are applied to the tips of the hair on the fur to facilitate matching of the different pelts in the finished garment, or to simulate another kind of fur.

There are other terms which the prospective purchaser who

studies advertisements will find such as "tipped" mink. "Tipping" is a trade name for dipping. This is a process of dyeing the leather of a pelt from the underside so that the fur will look darker and there will be no white showing when the fur is brushed back or parted.

The term "let out," frequently seen in descriptions of a coat of mink, raccoon, or muskrat, refers to a manufacturing operation in which a pelt is cut into long narrow strips which are reset to make the pelt longer and narrower. The markings at the center of the back are also brought out more strikingly by this process. Since a great deal more work of expert craftsmen goes into a coat that is made by the "let out" method, it is obvious that the price charged will be considerably higher than for one which is not treated in this fashion.

"Pointing" is the process of gluing white badger hairs into the skin of another animal to simulate a more expensive fur. Pointed fox for example may be red or white fox dyed black and made to look like silver fox by the skillful application of white hairs here and there. Such a skin is required, however, to be correctly labeled.

Why You Pay More

The explanation for the higher prices for furs this year is quite simple. The trappers have gone to war, and fewer skins are being brought to market. The workmanship on a good fur coat is of high order; skilled workmen, too, have been drafted or are working in war industries. It has been estimated, for example, that the average mink coat requires from 65 to 80 skins, and that at least 96

hours of work are required from the time the pelt is received until it is turned into a finished garment. Top-quality wild mink recently sold for something like \$30 a skin, and fur workmen are highly skilled and highly paid, so that with a little figuring it is easy to see what the price of a good mink is likely to be on today's market.

The average beaver coat takes fewer skins and, of course, requires less work. It is estimated that a beaver coat requires 8 to 16 skins; the smaller the pelts the more attractive the markings or stripes, and the higher the price. Beaver skins were sold, for example, on the Winnipeg market in August at \$70 to \$75 for the top grade, with \$21 about the lowest price paid for the lower quality. Add to the cost of the skins the cost of shearing—which eliminates the disadvantage formerly characteristic of beaver, the tendency to mat and curl when exposed to dampness—and the processes involved in making the coat.

Buying for Quality

It is seldom wise to look for a bargain in fur coats, nor does it pay to buy a coat of low quality. All things considered, experts advise that you are likely to get greater satisfaction from the top quality of a less expensive fur than a low grade of a higher-priced fur. Make your purchase at a good department store or from a well-established furrier. If you don't want to spend much money on a coat, get a rabbit, which may be processed in a number of different ways; or a sheepskin, more elegantly known as "mouton." You should, for example, be able to get a good mouton coat for around \$100 (plus tax), and rabbit process-

ed to resemble seal or beaver for the same price. Rabbit is sold under a number of different names, such as coney, lapin, sealine, beaver-dyed or seal-dyed coney, depending on the process used to finish the furs.

Some experts are inclined to the view that no one can really say with any degree of certainty how well a particular fur will wear. It is true, of course, that improper care, hard usage, or abuse, and a poor-quality fur to start with will all prove to be a combination that will make short-lived any type of fur, no matter how durable its best quality. Some basis, however, for determining the comparative wearing qualities, all things being equal, may be gathered from the rates of depreciation on various types of fur garments as set forth in the *Journal of American Insurance* some years ago. The lowest rate of depreciation is set at 10 percent for badger, beaver, fisher, fitch, fur seal, kolinsky, krimmer, marten, mink, muskrat, otter, Persian lamb, raccoon, and skunk. Slightly higher depreciation, or 15 percent, is allowed on caracul, ermine, fox, hair seal, leopard, lynx, marmot, monkey, nutria, opossum, puma, or sable. There is an allowance of 20 percent depreciation per year on chinchilla, chipmunk, goat, kidskin, mole, rabbit, or squirrel. The larger the percentage depreciation, the more fragile and more quickly worn out the fur is likely to be.

Proper Care Needed

One of the chief causes of wear is from friction rubbing against a harder surface such as the seat back of a car, bus, or trolley, a leather pocketbook held tightly under the arm, or possibly heavy jewelry.

A wet fur should be shaken lightly and hung over a chair far from a radiator, and allowed to dry slowly at room temperature. Garments should be thoroughly cleaned once a year. Any first-rate furrier will provide you with helpful advice on care and preservation of furs.

This Season's Furs

There are many furs known to the trade which are not being advertised and which probably are not available this year except possibly on special order. For consumers who want to know what is on the market at what price before shopping for a coat, a careful study has been made of advertisements for fur coats offered on sale in Chicago, New York, Washington, D.C., and Newark, N.J. The range of prices are those of actual coats advertised for sale during July and August. (Prices do not include the 10% Federal Tax.) Durability or serviceability is rated, in most cases, as good, poor, and fair, on the basis of the study made by a consultant of the Retail Fur Council of the National Retail Dry Goods Association.

One expert points out that the cost of new skins is considerably higher for coats now in process of manufacture than those purchased by stores earlier in the year. Some of the prices listed are so low in comparison to the present price of skins that this expert believes some advertising is of the sort known as "bait," to bring the customer to the store, so that only the early bird could have purchased a sheared beaver at \$398, for example. For each particular fur an estimate was made of the minimum price that a woman should expect to pay on the present retail market for a medium-quality coat.

1943 Fur Coats and Jackets

Name	Serviceability	Adv't'd Prices	Comments
Beaver	Good	\$398 - 895	This fur is short with a thick pile. In its natural state, it has a tendency to curl in damp weather. Shearing eliminates this difficulty without greatly reducing its serviceability and gives a shading or stripe running the length of the garment. The more stripes, the more skins are required, hence a "5 stripe" coat is more expensive than a "3 stripe" one. Expect to pay at least \$750.
Caracul	Low to Good	\$190 - 499	Skins of caracul lambs from China have silkier hair and will give better service than Russian skins, or those having the appearance of caracul sometimes called "caracul kid." Look for flat curl and high luster. The better grades are the most perishable. Expect to pay at least \$265.
Fox, Silver	Fair	\$100 - 299	Best quality is a dark, blue-black shade with a considerable number of silver hairs throughout. Hair should be soft and silky and not so long as to appear bushy. Lower grades have fewer silver hairs and may be rusty in appearance. Expect to pay at least \$180 depending on the number of skins used.
Blue Dyed	Poor to Fair	\$90 - 229	Look for silky, full fur. Poorer qualities will have coarse flat hair. Expect to pay at least \$150.
Guanaco	Poor	\$119	Type of South American llama. Pelt of the young is used. Usually dyed to resemble blue fox. Expect to pay at least \$75.
Kidskin	Poor	\$110 - 149	Has a thin leather which tears easily when dried out. Chinese kid has silkier hair and is considered more durable than African or Indian kid. Expect to pay at least \$135.
Lamb, Persian Black Gray Brown	Poor to Good	\$195 - 1200 299 - 695 - 895	For top quality, look for tight curl and silky, lustrous fur. Lower grades lack luster. Will sometimes crack and peel. Even good natural browns, grays, and blacks are "tipped" to dye the leather a dark shade. "Cross Persian" has a looser curl, lacks luster, and does not wear so well as good Persian lamb. Expect to pay at least \$225 for a black Persian (\$180 for a black cross Persian); \$300 for a gray Persian (\$275 for a gray cross Persian); \$150 for a brown Persian.
Persian Paw	Fair	\$125 - 199	Paws of Persian lamb sewed together to make a garment. Sometimes other pieces are used, and the finished job will be called "pieced Persian." Expect to pay \$120 - 135 at least.
South American	Fair	\$127 -	Sometimes sheared and sold as "American broadtail." Expect to pay at least \$135.
Indian	Fair	\$239 - 300	Expect to pay at least \$240.
Mouton	Good	\$99 - 127	Processed dyed lambakin from South Africa, South America, and Australia. Expect to pay \$130. Almost all of current output is going to the Army and Navy.
Leopard	Poor	\$485 - 595	Has a tendency to shed. Expect to pay at least \$375.
Mink	Good	\$799 - 8500	"Labrador" mink is considered tops in quality, followed by mink from Quebec and from Maine. "Eastern" mink comes from the New England States and is available in varying degrees of quality. Russian mink is not so well furred as American mink. Wild mink has a heavier leather than ranch mink. Expect to pay at least \$1500.
Muskrat Northern Back Mink-Blended Sable-Blended Natural Silver Hudson Seal-Dyed	Fair to Good	\$225 - 268 195 - 459 198 - 285 179 - 235 299 - 600	There are three varieties of muskrat: Black Jersey which is somewhat darker than the customary brown; Northern of which the best skins are used for "Hudson Seal"; and Southern muskrat from Louisiana and Texas. The backs of pelts are considered more durable than the sides or bellies. Skins of dark shades are often "let out" like mink. Expect to pay at least \$270 for a "Northern back" coat regardless of how it is blended; \$180 for natural silver; \$300 for Hudson seal-dyed.
Nutria	Fair	\$499 - 765	Fur resembles the beaver somewhat but comes from a South American water rodent. Has a tendency to curl and mat. The choicest sections come from bellies. Expect to pay at least \$600.
Ocelot	Low to Fair	\$199 - 1100	Ranges in color from light gray to tan with a reddish cast. The pale gray is likely to give better service. Yellow type has tendency to shed. Expect to pay at least \$265.
Opossum American	Fair	\$108 - 295	The natural fur has a tendency to shed. Often dyed to resemble skunk. Expect to pay at least \$135.
Australian	Poor to Fair	\$319 - 595	This fur has tendency to curl. Expect to pay at least \$375.
Otter	Fair to Good	\$698 - 798	Sometimes dyed to resemble seal. Otter from North America, particularly Canada, is considered to give better wear than that from other localities. Expect to pay at least \$450.
Rabbit	Poor to Fair	\$69 - 360	Rabbit skins come from many different parts of the world, as well as from the U.S. They are processed in a number of ways and under many trade names and processes, as lapin, cone, beaver-dyed cone, and seal-dyed cone, and chinchilla-dyed. Expect to pay \$65 - 100, depending on fullness and silkiness of fur and workmanship which is an important factor in determining quality.
Raccoon, American	Good	\$185 - 250	Skins are sometimes "let out" like mink to eliminate bulkiness, and blended to resemble silver fox. Usually "tipped" or blended. Look for dense silky under-fur, gray guard hairs with black tips and well-matched skins. Expect to pay at least \$225.
Seal Alaska	Fair to Good	\$379 - 895	Entire catch is under control of U.S. government. Natural fur is dyed black, safari brown, or matara brown. Expect to pay at least \$450.
Skunk	Good	\$176 - 275	Customarily dyed to eliminate the white stripe down the back, or the stripe may be cut out and the fur used in its natural color. Skins are often "let out" to give a long narrow effect and eliminate bulkiness. May also be "tipped," and dyed to resemble sable, baum marten, or fox. Some coats are made of the cut out white stripe and dyed black. Such a coat is not a good buy. Expect to pay \$180 - 195 at least.
Spotted Cat	Poor	\$199 - 349	Sometimes erroneously called "Leopard cat" by the trade. Has a decided tendency to shed. Expect to pay at least \$265.
Squirrel	Poor to Fair	\$188 - 339	Natural shade is blue-gray on back, gray and white on belly. Squirrel is frequently dyed brown or to resemble sable. It is a soft, light-weight fur which requires care in handling and wearing. Expect to pay \$140 - 210 at least.

Men's Socks

A FEW YEARS AGO, CR found that the most economical socks for dress wear were those costing about 35 cents or 3 pairs for \$1. Cheaper socks, such as those sold in 10-20-cent stores did not give adequate service, and the more expensive socks did not have the superior wearing qualities that their high price should have guaranteed. Today the situation has changed, for the cheapest sock available to civilians found worthy of an *A-Recommended* rating cost 55 cents; however this brand was really superior in quality to the most expensive socks tested, selling at \$1 a pair. It is interesting to note that a sock selling at 65c a pair had more features that go with expensive socks than the sock at \$1 a pair; for example, in the latter, a less desirable type of yarn was used, and a cheaper type of construction was used for the high splice.

Failure of men's socks is usually due to their poor resistance to abrasion, which results in holes that require darning. The amount of darning which can be done without introducing a certain amount of discomfort to the wearer is, however, limited. Unduly early failure of socks from abrasive wear or rubbing on the shoe lining may be due to several causes: poor quality of reinforcement at points of wear; socks too small when originally purchased, or became too small later due to shrinkage in laundering; rough or broken shoe linings; and insufficiently frequent laundering. Men's socks also fail at times by running, caused by the stresses set up when put-

ting them on. To judge the probability of this type of failure, a bursting-strength test was made on each brand.

Sizes of Socks

Manufacturers of good quality socks usually make their socks somewhat larger than the marked size to allow for shrinkage when the socks are washed. Unfortunately, much skimping is done in this connection. Some manufacturers knit only two sizes of socks, stretching them to a total of six sizes. This saves the manufacturer considerable money, but it is hard on the consumer who buys a stretched sock, for after laundering, it has a marked tendency to revert back to its original size as knit.

The old-fashioned method of determining size by folding the sock around the closed fist is inaccurate, and should not be used. The best method is to measure the foot from the tip of the toe to the back of the heel. Add one-half inch to this measurement for cotton and rayon socks to determine the size you require. (Add an inch for wool socks.) Because of the discrepancy between marked sizes and actual size after washing, it is advisable when shrinkage characteristics of a brand are not known to purchase at first only one or two pairs of a given brand and compare the size after washing with the actual size of the foot; if the former is smaller, a larger size should be purchased.

Socks should be of the right length as measured down the center of the leg from top of sock to bottom of sole. The standard length for men's half-

hose is 14 inches for sizes 9 to 10, with an additional $\frac{1}{2}$ inch in length for sizes $10\frac{1}{2}$ to 12. Intermediate-length socks (anklets) which were originally intended for sports wear, but are now much used for general wear, usually are 9 to $11\frac{1}{2}$ inches in length when measured in the way specified.

Types of Construction

As men's socks are usually purchased on the basis of color and ability to wear, without any insistence on a snug fit, most men's socks are made by the circular knit process in which they are knit as seamless tubes. This is cheaper than knitting by the method used for women's stockings of the better grades. Semi-full-fashioned hose are actually circular knit hose with a mock seam down the rear and stopping at the heel. The take-up due to this seam improves the fit at the ankle. Full-fashioned socks are knit "in the flat" and opposite sides are then brought together and seamed. The full-fashioned socks are relatively expensive; they do have one disadvantage, that a seam extends beneath the foot, and this may be found somewhat uncomfortable by some wearers.

Some of the socks tested were marked "genuine wrap," a term meaning that the pattern or clock is woven into the body of the sock. A cheaper method is known as "mock wrap." In this, strands of the pattern are only loosely held in the fabric. Mock wrap can be identified by the presence of long loose ends of colored thread on the inside of the sock.

Care of Socks

1. Wash frequently and carefully. Since perspiration greatly weakens all textile fibers, socks should be washed promptly after wearing. Wash in lukewarm mild soap suds and thoroughly rinse, stretch to shape (unless of rayon, in which case they must not be pulled or stretched, on account of the great loss of strength of rayon when wet). Dry away from sun or excessive heat. Turning socks inside out when laundering them will help hold their good appearance longer.

2. To avoid runs, socks should be rolled inside out, down to the toe, then placed on the foot and unrolled over the ankle.

3. It is always best to purchase two pairs of the same color and pattern socks at a time, for usually one sock of each pair will fail first, and the remaining socks can then be matched into a pair.

The following ratings are based on an abrasion test made at the high splice region of the socks, on an abrasion test machine especially designed and built by CR; also on a bursting strength test, examination of yarns, thread count, and measurements before and after laundering.

A. Recommended

U.S. Army Socks. 14c. (Not available to civilians, but available at same price to soldiers, sailors, marines, everywhere.) 2-ply cotton. Resistance to abrasion very good. Bursting strength very good. Some shrinkage below marked size with laundering. 1

Interwoven "Extra Quality" (Interwoven Stocking Co., New Brunswick, N.J.) 65c. 2 pairs, \$1.25. Toe, cotton and nylon; sole, mercerized cotton; body, rayon and nylon. Appearance exceptionally good. Semi-full-fashioned. Resistance to abrasion very good; best among the socks tested. Bursting

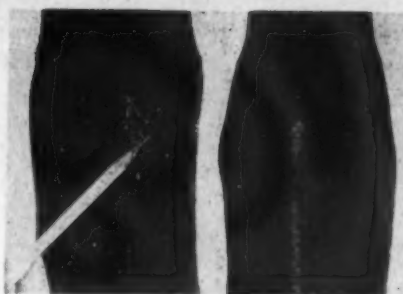


Illustration shows two typical socks (of different pairs) turned "wrong-side out." In buying men's socks with figured designs, stripes, or clocks, always turn the sock inside out and examine the back of the design. It is safest to avoid any sock which has long loose strands or yarns as shown at left (called "floats"). In the best socks, the design is firmly secured throughout, on the inside surface of the fabric, as shown in the example at the right.

strength average. 2

Phoenix (Phoenix Hosiery Co., Milwaukee) 55c. Top, sole, and toe, mercerized cotton; body, rayon and silk. Semi-full-fashioned. Appearance very good. Resistance to abrasion very good. Bursting strength above average. 2

Interwoven "Super Grade" (Interwoven Stocking Co.) \$1. Toe, cotton and nylon; sole, mercerized cotton; body, 2-ply rayon. (Plied yarns are stronger than plain yarns.) Appearance very good. Resistance to abrasion average. Bursting strength above average. 3

B. Intermediate

Kresge (Sold by Kresge stores) 29c. Marked "Embroidered Design—Genuine Wrap." Top, toe, and heel, mercerized cotton; body, rayon. Appearance good. Resistance to abrasion and bursting strength average. Color of one sample (black) ran in washing. Some shrinkage after laundering. 1

Kresge "Extra Mileage" (Sold by Kresge stores) 35c. Top and heel, mercerized cotton; toe, cotton and linen; body, rayon. Appearance very good. Resistance to abrasion good, but bursting strength very low. Some shrinkage after laundering. 1

Interwoven (Interwoven Stocking Co.) 45c; 3 pairs, \$1.25. Toe tip, nylon and cotton; body, rayon. Appearance very good. Resistance to abrasion average. Bursting strength

above average. Color ran somewhat in washing. Shrinkage with laundering, excessive. 2

Phoenix "Extra Mileage" (Phoenix Hosiery Co.) 65c. Mercerized cotton. Body, cotton plated on white mercerized cotton. Appearance satisfactory. Resistance to abrasion average. Bursting strength somewhat below average. 2

C. Not Recommended

Pilgrim Royalton, Sears-Roebuck's No. 86—1944. 19c plus postage. Cotton and rayon. Body, rayon plated on rayon. Appearance poor. Resistance to abrasion poorest of socks tested. Bursting strength low. Lost color badly in washing. Shrinkage with laundering, excessive. 1

Randall, Montgomery Ward's No. 30—642. 13c plus postage. Tops, toes, and heels, cotton; body, cotton and rayon. Appearance poor. Resistance to abrasion poor. Bursting strength very low. Color ran in washing. Actual size found to be $\frac{1}{2}$ inch less than marked size. Some shrinkage below actual size. 1

Wards "Superior Quality," Montgomery Ward's No. 30—689. 3 pairs, \$1.10 plus postage. Toe, reinforced with nylon; tops and heel, mercerized cotton; body, rayon. Appearance very good. Resistance to abrasion below average. Bursting strength above average. Some shrinkage. 1

Westchester (Sold by F.W. Woolworth stores) 29c; 3 pairs, 85c. Top, heel, and toe, mercerized cotton; body, rayon. Appearance good. Resistance to abrasion below average. Bursting strength above average. Shrinkage with laundering, excessive. 1

Pilgrim Nobility, Sears-Roebuck's No. 86—1930. 50c plus postage. Tops, heels, and toes, rayon and cotton; body, rayon. Appearance good. Resistance to abrasion below average. Bursting strength average. Color ran slightly in washing. Shrinkage with laundering, excessive. 2

Smartwear "Wearthead First Quality" (Sold by W.T. Grant stores) 49c. Cotton and rayon. Body, rayon. Appearance good. Resistance to abrasion good. Bursting strength above average. Shrinkage after laundering, excessive. 2

This Winter's Anti-Freeze Problem

IN APRIL of this year the War Production Board issued a limitation order prohibiting the sale of the so-called permanent (non-evaporating) type of anti-freeze solutions containing ethylene glycol, such as *Prestone* and *Zerex*, for use in civilian automobiles, the object being to conserve this fluid for military and commercial vehicles. While this might seem to have been a logical move to conserve scarce materials, the order was unsound as can be seen from the following. There are many regions and a number of states where, owing to high altitude and very long climbs up steep grades, alcohol cannot be used as an automobile anti-freeze because of the rapidity with which it boils away.

In August, following the thinking which should have been done before the restriction order was promulgated, the WPB's regulation was amended to permit use of ethylene glycol solutions in twelve high-altitude states (Arizona, California, Colorado, Idaho, Montana, North Dakota, South Dakota, Nevada, Oregon, Utah, Washington, and Wyoming). The material is also permitted in all states for pursuit cars used by the police and the federal Department of Justice.

A War Production Board release discourages the use of mixtures of alcohol and ethylene glycol, giving the reason that although alcohol can be used as a make-up liquid for the permanent-type anti-freeze solutions, there is no way, when this is done, to measure accurately the "strength", or safe temperature limit, with the commercial type tester used with anti-freeze liquid. The result is that as the alcohol

boils out of the radiator, the motorist has no sure and convenient way of knowing whether the liquid left in his radiator has a freezing point sufficiently low for exceptionally cold days.

In the absence of such knowledge the permanent anti-freeze drained from radiators last spring and saved will be of little use for the coming winter unless sufficient ethylene glycol is made available (in the other thirty-six states) to replace losses and bring the mixture up to the required strength. This it has been estimated would require only 4 million gallons of ethylene glycol. If this concession is not made, and the saved anti-freeze of last year used, 20 million gallons of alcohol anti-freeze will have to be made available. The stored up ethylene glycol would have to be discarded, except by consumers who are willing to take the trouble to use the method of checking the freezing point explained in the following paragraphs.

There is a method, albeit a somewhat inconvenient one, which can be used to check the "strength" of mixtures of alcohol and ethylene glycol, and this should be used in the event that the WPB does not release some ethylene glycol for bringing used radiator liquid up to strength, or does not release it soon enough. A small sample of the radiator solution should be taken from the radiator after the engine has been run, to assure its being well-mixed. This is placed in a small, stout bottle, corked or capped so as to be airtight, in an outside location where it can easily be seen and handled (an empty ink-bottle would serve).

If on a very cold day the

sample in the bottle should freeze or become mushy or slushy, the anti-freeze strength needs to be increased by addition of alcohol to the radiator; a new sample of the reinforced mixture will then of course be taken (*after thorough mixing of the radiator contents*) to be kept in the observation bottle. If the sample should freeze hard, the car owner must use his judgment whether it is safe to take his car out that day; if he does and the day continues very cold, he must make provision to cover the engine-hood and radiator well, at the very least, to hold in the heat. He must run the engine a few minutes at least every few hours if he wants to make doubly sure of not damaging radiator or engine block until he has had time and opportunity to add alcohol and increase the concentration of the anti-freeze liquid. After freezing of the liquid in the bottle occurs the mixture's freezing point can be approximately determined by bringing the bottle indoors and allowing it to warm up slowly in the room; a thermometer having a sufficiently low scale reading is then immersed in it, the temperature being noted when the liquid just starts to get mushy or slushy. That is the safe temperature for that particular mixture, if the same thermometer is thereafter used for reading winter outdoor air temperature. (This is an important qualification since air temperature thermometers are very commonly inaccurate to the extent of several degrees at low winter temperatures.)¹

There is one sure method which can be applied by those consumers who have stored their previous winter's ethylene

glycol solution and have means at hand for estimating its present freezing point with the regular hydrometer float used for determining the safe or freezing limit of an anti-freeze solution. *This method gives sure protection only in cases where the low temperature or freezing limit of the ethylene glycol solution which was saved as determined by the hydrometer reading is found to be as low as is required for safe driving throughout the winter in your part of the country.* Drain the car, radiator, and heater system as completely as possible, by placing the car on a slope if necessary and running the engine for a few moments to pump out residual water. Then determine with the hydrometer the safe freezing point of the anti-freeze which has been stored. Then pour the anti-freeze into the radiator. Complete the filling of the radiator with alcohol to the proper level (about two inches below the overflow-pipe inlet). Your car will now be safe, at least to the temperature which has been determined by the hydrometer test. From now on use alcohol to make up for losses due to evaporation. In this way, although you will not know to what temperature

¹ A method that might be easily applied by those who have access to a supply of dry-ice (solid carbon dioxide), will be to freeze a sample of the radiator solution, contained in a small metal cup (such as an aluminum measuring cup) set in a box of dry-ice. The cup is removed from the dry-ice box when the solution becomes solid or mushy; a thermometer is inserted into the mass, and the mass stirred until about one-third is liquified. Then the thermometer (which should be one reading to about 40° below zero) is read. (The same thermometer must thereafter be used for reading the temperature outdoors.) Those not familiar with the handling of dry-ice should be reminded that caution is necessary, for many people, particularly children, have been severely injured by handling the material or getting it in contact with some part of the body. Do not permit children, under any circumstances, to handle or play with the material.

the mixture of alcohol and permanent anti-freeze is safe, you will know that its freezing point is at least *below* the hydrometer-measured freezing point. How much below can always be determined if the weather gets cold enough, by the method we have previously described.

Present indications are that there will be sufficient amounts of ethyl alcohol for use as anti-freeze this coming winter; 45 million gallons, it is said, have been allocated for civilian use. However, automobile owners who for any reason have high-temperature thermostats in their cars will not in any case be able to use alcohol anti-freeze unless they can secure new thermostats operating at 160°F. or below. (Thermostats opening at 180° or thereabouts have been used on many cars to improve the performance of hot-water type car heaters.) It is very doubtful whether new thermostats of the low-temperature type will be available in sufficient numbers, on account of the various restriction orders affecting the use of scarce materials.

Methanol, or wood alcohol, use of which as an anti-freeze solution CR does not recommend, will, it is understood, be available in limited quantities. It is important therefore in buying alcohol that consumers make certain they are receiving *ethyl* alcohol and not the cheaper and poisonous methanol or "wood" alcohol. Examine labels carefully, or if the liquid is bought in bulk, read the markings on the drum from which it is dispensed. If unable for any reason to do this, better buy elsewhere.

Care and Treatment of Used Anti-Freeze Solutions

Anti-freeze drained from

radiators last winter and stored in glass bottles or cans may not be suitable for re-use without certain treatment to reduce the danger of corrosion, rust-clogging, and overheating. This also applies to the permanent types of anti-freeze left in radiators during the summer months on the advice of manufacturers, who were of the opinion that under wartime restriction of driving speeds and reduced amount of driving permitted, there would be less tendency than formerly for the solutions to deteriorate through oxidation.

The first thing to do, whether the solution was left in the radiator throughout the summer or not, is to filter it through closely woven cloth to remove all rust particles that might be present. If it was stored, any sediment that has formed should be separated from the liquid.

Most anti-freeze solutions when purchased contain an inhibitor, the purpose of which is to prevent the solution from developing acidity and thereby causing corrosion of the radiator and engine. Such inhibitors are usually "used up" during the course of the winter and must be replaced if corrosion is to be prevented. To test whether or not your solution is acid, it is necessary to use some blue litmus paper (obtainable from chemical supply houses²). If a strip of this paper when dipped into the radiator solution turns red, it indicates the solution has an acid reaction and calls for the addition of a suitable inhibitor before the solution is reused.

² Blue litmus paper is available from many drugstores, at about 10c per tube of 100 strips.

Types of Inhibitors

The chromate type of inhibitors has been found satisfactory for all types of anti-freeze solutions. One method recommended by CR is this: Dissolve a sufficient amount (perhaps 1 oz.) of washing soda (sodium carbonate) in a little water, and add this solution little by little to the anti-freeze, which has previously been put into a large container. Mix well after each addition of the carbonate solution until the liquid as mixed does not change the color of a piece of blue litmus paper to red. Then add 1 ounce of sodium chromate (or 1 ounce sodium dichromate and 1/3 ounce of sodium hydroxide [lye; handle with extreme care]) to the radiator solution.

Because of the importance of conserving ethylene glycol-type anti-freeze, several companies have been carrying on research to develop inhibitors of a new type for the use with old ethylene glycol solutions. Du Pont has found that adding 1 1/4 ounces of a mixture of 96% borax and 4% Captax (mercaptobenzothiazole) to each gallon of radiator solution is satisfactory, providing the solution to be treated is free from rust and does not have a pH value less than 6.5. Unfortunately for the layman or for anyone not possessed of chemical laboratory equipment, there is a

hitch in this procedure, for there is no simple way by which the pH value of the solution can be determined; thus this effective inhibitor appears to be out of the running, so far as the average motorist is concerned.

One government department found the chromate type of radiator solution already discussed to be more effective than usual commercial inhibitors that were tested, but they found that a chemical known as *morpholine* gave better action than any other inhibitor used. This is a chemical which has also been used in the treatment of boiler feed water; it is obtainable from the Carbide & Carbon Chemicals Corp., 30 E. 42 Street, New York City 17, at 68c per pound plus packing, handling, and postage charges. The amount required is 4/10 of an ounce (2 1/2 teaspoonfuls) for each gallon of radiator liquid to be treated. Thus it is suggested that several persons may wish to combine and send one order for the material, since a single pound (approximately a pint) would provide for the treatment of 40 gallons of radiator liquid.

In general, regarding the use of inhibitors for anti-freeze solutions, it will be wise to follow the advice that no proprietary solution should be purchased for this use unless its base is morpholine, as described in the

foregoing, or unless the product is marketed by a firm of highest standing and reputation in the field of *chemical manufacture*. The point is, that there will be a lot of unsuccessful research and developmental work in this field for which consumers will pay in unsatisfactory protection or actual damage to their engines and radiators, just as last winter they paid for a great deal of dangerously corrosive radiator anti-freeze liquid—paid not merely in the cost of the solutions used but in the cost of serious damage to thousands of automobile and truck engines.

* * *

Labeling requirements this year call for a statement on the packages of commercial anti-freeze of the number of quarts of the liquid to be added to one gallon of water to reduce the freezing point to -10°F, or the usual table may be given showing the amount of anti-freeze needed to obtain protection to stated temperatures.

It is understood that, as happened toward the end of last winter, the sale of anti-freeze liquids made of solutions of inorganic salts in water which cause harmful corrosion of radiator and engine parts (calcium chloride, etc.) will be prohibited

Percentage of Lean Meat in Meat Cuts

THE FOLLOWING TABLE in a leaflet of the College of Agriculture, University of Arizona, showing the percentage of lean meat in certain cuts is based on the Chicago method of meat cutting, and on local meat prices in Tucson, Arizona,

February 1943.

Where the individual prices and calculated prices per pound of edible part do not apply, the prices will still be valid relatively and the table useful in indicating which cuts give the most meat for the money.

Cut of Meat	Per cent lean	Price of Cut per lb.	Price per lb. of edible part
Flank steak	87	35c	40c
Round			
(full cut)	81	39c	48c
Sirloin steak	70	39c	56c
Chuck roast	70	25c	36c
Rib roast	64	35c	55c
Porterhouse	60	43c	72c
Plate	58	20c	34c
Rump,			
with bone	53	35c	66c
Fore Shank	47	15c	32c
Hind shank	31	15c	48c

Home Insulation

AT THIS TIME OF THE YEAR, with the uncertainty that prevails regarding the fuel supply for the coming winter, and the certainty that exists as to some regions, that accustomed kinds of fuel will not be available in sufficient quantities to assure home comfort, many home owners are giving serious consideration to the problem of insulating their houses, to get the most benefit possible from the fuel they buy. It is estimated that three-quarters of the houses in the country are not yet "weather-proofed" in the sense of measures having been taken for reducing their heat losses in winter weather. The fuel problem this winter in some localities is likely to be much more serious than the average consumer supposes, and coal shortages of a very drastic nature are now thought to be a possibility in some communities.

Salesmen in the insulation field naturally often tell less than the whole truth about their own and their competitors' products. In this way they are able to take easy advantage of the average layman, who can be pardoned for not having the basic engineering or physical knowledge regarding the relationships between insulations of different types and different thickness, and who are likely to give far too much weight to the differences which every insulation salesman insists exist between his product and those competitive with it. The sales end of this industry makes many misleading claims, though the printed advertising is often of a more responsible character. One of the best-known insulation manufacturers claims for his product a "remarkable superiority" over other types of rock wool and asserts that his product is three to eight times as thick as most other insulating products and is therefore three to eight times as effective—a claim quite persuasive to the layman, but nevertheless very misleading.

Specific Heat-Savings by Insulation

Before insulating a house, there are many things to be considered: For example, what *type* of insulation to use; what *thickness* is the best choice when costs of insulating and of fuel are considered; should the *entire house* be insulated, or should the new material be applied to the *roof* or only to the *attic floor*; what other measures can be advantageously applied along with insulation to conserve fuel.

Since efficient use of insulation implies a knowledge of the relative amounts of the various heat losses from a house in winter, it is important to consider how much of the total heat supplied to the house by its furnace and other sources of heat, such as hot-water heaters, stoves and ranges, escapes out of the house by various channels. Some years back researchers made a study of 200 uninsulated frame houses which they reported in the Transactions of the American Society of Heating and Ventilating Engineers. These houses not only lacked insulation, but were without weatherstripping, storm windows, and storm doors. The heat losses were distributed approximately as follows: The losses due to *infiltration of cold air* into the house and those due to heat flow out *through the glass of doors and windows and outward through the walls* were ap-

proximately equal, each running around 25%. The loss *through the roof* was about 16%. There were smaller losses *through the doors* of 4% and *through miscellaneous channels* of 2%. These figures are, of course, only in a very rough sense applicable to any individual house, for there is an infinite number of variations of type and tightness of construction, manner of framing and covering the roof and walls, and of climatic conditions. These rough values are useful, however, as a basis for estimation of the steps that can be taken to reduce fuel consumption in the most practical and economical ways.

Various figures have been given for the amount of heat that can be saved by a number of methods. Professor Konzo, writing in the University of Illinois Bulletin, *Save Fuel for Victory*, of October 20, 1942 (Engineering Experiment Station Circular Series No. 47, 25c) gives the following estimates of the reduction in fuel consumption made possible by four common methods:

Storm doors.	2 to 3%
Storm windows.	20%
Insulation of a top-floor ceiling.	10 to 12%
Insulation of sidewalls.	15 to 17%

If the savings are added up through the use of storm windows and doors and ceiling and sidewall insulation, a total saving of about half the fuel is made possible.

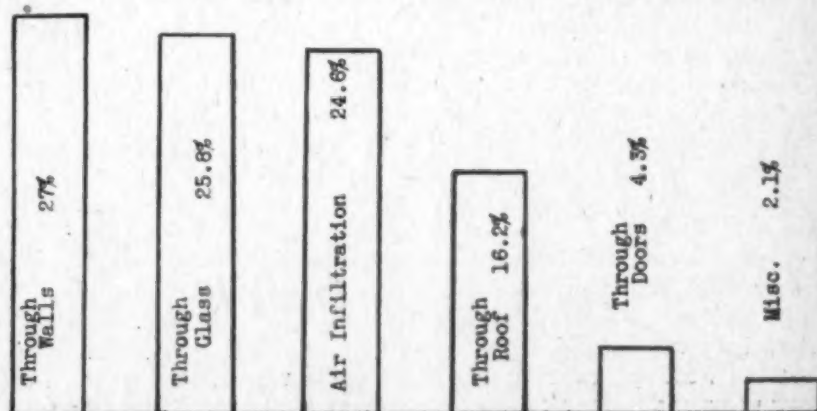


Fig. 1



Figure 2

Courtesy Johns-Manville Corp.

Installing batt-type insulation between the joists of an unfinished attic. On the bottom and sides of the batts is an asphalt-treated backing paper which serves as a vapor-barrier.

Weatherstripping reduces the losses through infiltration of cold air into the house, but, looking at the diagram of Figure 1, it can be seen that its effect is to reduce only one of the three principal 25% losses, leaving the others unaffected. The labor cost of correctly installing effective weatherstripping in an old house is often large and on this account storm sash are often to be preferred. However, basement doors and windows should be made reasonably tight, also any cracks along sills where light can be seen from the inside. Making the basement weather-tight can be overdone in some cases, perhaps; enough air

leakage must be permitted to allow an adequate flow of air for combustion of the fuel in the furnace in severe weather, when the burning-rate is highest. Tightly-fitting storm sash do the job of weatherstripping and more besides, and are highly recommended. While there is considerable labor in installing and removing storm sash, the work can be done whenever time or labor is available, even in mid-winter. If a complete set of storm sash cannot be installed at one time, the main living room, the dining room, and other rooms exposed to the prevailing winds should be protected first.

Storm doors and windows applied alone would reduce fuel consumption upward of about 20%. Insulation $3\frac{5}{8}$ inches thick applied to the ceiling of the upper floor would save a maximum of about 14%. Filling the hollow spaces within the walls with a light, fluffy insulation material will save a maximum of about 20%. These figures are all somewhat larger than those in the brief table above. This is because they represent maximum possible savings, assuming the ideal condition of a heating plant working under full load after the improvement is made in the house. In actual practice, if the heating equipment was properly loaded in the first place, and means of heat-saving are thereafter introduced into the structure of the house, the heating plant will operate only at part load, and its efficiency in utilization of fuel be reduced somewhat, correspondingly.

Where to Insulate— Vapor Barriers

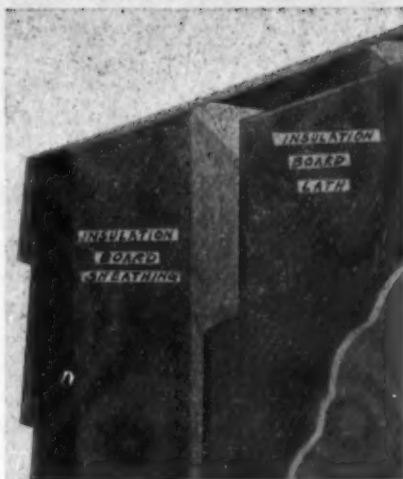
It is very much easier to insulate the ceiling of an upper floor of a house or the roof than the walls, in a house already built, and on this account and because such insulation can usually be installed quite satisfactorily by the home owner himself, this method of insulation should be given preference to insulation of the walls. If the attic is not used as living space, it is cheaper to insulate its floor rather than the roof because of the lesser area involved. When the attic is used for living quarters the outer walls and ceilings of the attic rooms require insulating. The part of the top-floor ceiling or attic floor which is outside the area of the attic rooms should also be insulated. However, it is desirable that there should be an air space above such rooms which can be ventilated through open or partly open windows or louvers, and means should be provided for getting air through this space the year round.

If the attic floor is unfinished, adding insulation there is very

simple, whereas putting insulation into the side walls or under a finished attic floor involves problems which most people without special experience and equipment would find a fairly difficult task even if mica pellets are used. To some extent, insulation in walls brings up a special problem in the form of condensation of moisture when the weather outdoors is very cold and the humidity indoors relatively high. In extreme weather, moisture may be deposited in the coldest part of the wall, which may cause damage to timbers and siding, and to exterior paint. When insulation is installed in the walls or ceiling (attic floor) or roof of a new home of modern construction, proper specifications call for inclusion of a "vapor barrier," usually in the form of asphalt-saturated or -coated sheathing or other hard paper on the inside face of the joists, rafters, studs or furring strips before application of the interior finish. This barrier prevents the migration of water vapor into the wall construction, its passage through it, and its condensation upon the colder exterior surfaces. The barrier is always placed on that side of the insulation which is toward the interior of the house (the *warm* side, in winter). With loose-fill insulation in an unfinished attic floor or ceiling, the vapor-barrier is installed separately from the insulation and the insulation then introduced.

Excessive Humidity Undesirable

In houses already built, such vapor barriers obviously cannot be installed without tearing down the inside walls. As this is usually wholly impracticable, wall insulation in existing houses is usually applied by being "blown in" through holes cut in the outside walls, and the vapor barriers are omitted. While this difficulty with condensation may seem to be an argument for not insulating the walls of a house, it is not so in fact, for moisture deposited within the walls of a house is not always a practically serious prob-



Courtesy Insulite Co., Minneapolis

Figure 3

Method of installing rigid insulation board "lath" for plastering and insulation board sheathing. The vapor barrier is on the far side of the insulating board "lath" (i.e., at the warm side of the stud space).

lem; usually it is troublesome only when there are long periods of below-zero weather. The seriousness of the condensation problem depends on the climate. The difficulties are increased where the house is especially well and snugly built or humidity inside is artificially raised by plaster which is drying out, or by excessive use of humidifiers with or in the heating system, an unusually great amount of cooking or laundering, or other processes which release large quantities of moisture inside a house (e.g., unvented gas stoves or heaters). Providing the humidity is not allowed to exceed 30% when the outside temperature is 15°F or below, nor to exceed 20 to 25% when the outside temperature is around zero, the omission of a vapor barrier will not involve a serious risk to the integrity or life of the structure. In any case the consumer should take pains to see that humidity in his house does not become too high in weather below 15 or 20°F, for high humidity is disadvantageous rather than helpful, contrary to advice of many heating plant and equipment dealers. (Unfortunately household or desk humidity-measuring instruments are universally unreliable

and inaccurate.)

The important topic of indoor humidity has been fully discussed in earlier CR Bulletins, and any who are inclined to believe that high winter humidity in the home is desirable should certainly consult those articles. (Tear sheets may be had of two articles from the May 1938 Bulletin and one article from the March 1943 Bulletin—25c for the set.)

Thickness of Insulation

Insulation can be applied in almost any thickness, limited only by the space in which it is to fit, and the limitations of the pocket-book. Most people assume that the thicker the insulation, the better. Theoretically this is true, but practically, application of insulation above a certain moderate thickness is economically unwise, for the returns in terms of heat saved diminish as additional inches are applied. Four inches of insulation do not have anything like four times the insulating properties of one inch of the same material, as some suppose, *but only about one and a quarter times as much*. To make this concrete, consider an insulating layer 1 inch thick applied below the attic floor. This would reduce the total heat loss from the house by 11.3%. The next inch would take off an additional 1/6 or 2%; the third inch, takes an additional 1/14 or 0.8%; and a fourth addition (5/8 inch) adds only 1/28 or 0.4% to the total reduction of heat loss. For the total of 3 5/8 inches thickness (the usual space between the lath of the inner wall and the sheathing of the outer wall) the total heat-loss reduction for the house would be 14.5%. Figure 2 will show that practically speaking 3 5/8 inches or 4 inches would be as thick an insulation as would normally be worth applying. Usually in commercial application of insulation thicker layers do not cost a great deal more than thinner ones, since labor cost does not increase in proportion to the added thickness and the investment, once made, is good for the life of

the house.

Unfortunately, in certain applications the insulation must be made thicker than might seem economically desirable; thus, in insulating a finished attic floor, loose-fill type insulation must be *blown in*, and instead of laying the needed 4 inches of insulation between the joists, some contractors will fill the entire space from top to bottom of joists, amounting to 6 or 8 inches. The extra 2 or 4 inches have added little to the insulating value of the floor as a whole, but have increased the cost somewhat (say 10 or 15%).

The amount of insulation economically desirable to apply increases with the value of the fuel consumed; with expensive fuels, the return on the investment will be greater. Certainly under wartime conditions, a somewhat greater investment in insulation than in normal times would be warranted.

Types of Insulation

Insulating materials may be classified into the following main groups: (1) loose-fill, (2) batts or pads, (3) flexible blankets, (4) rigid insulating boards, (5) slabs, and (6) reflective.

Types of Loose-fill Insulation

Mineral Wool is a general term for products which are made by melting rock or slag and blowing steam through them to produce a soft yielding mass of fine, vitreous (glassy) fibers. These are incombustible and on account of the great number of small air cells they entrap, have good heat-insulating properties when in thick masses. Mineral wool is produced in fluffed or batt form and also granulated (or pebble-like) form, called "nodulated" by the trade.

Slag Wool is made by processing molten slag from a blast furnace in the manner just described. Small amounts of rock are often added to the fused mixture that is to be blown.

Rock Wool is made from limestone or shale by a similar process.

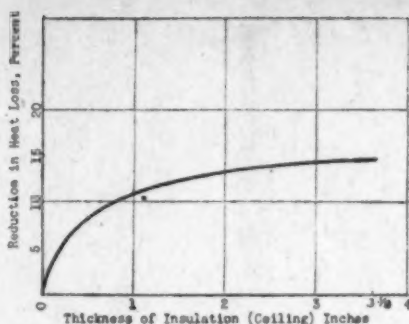


Figure 4

Rock wool and slag wool are the two most used types of fill insulation. In new construction they are mainly used as batts, but under wartime conditions, the chief use is of the granular material.

Glass Wool. About one-third or one-fourth of the "wool" type of insulation is glass wool, which is made from dolomite and silica, and is also available in granulated or pebble-like form, and in other forms. It is extremely light, compared with other insulating materials, weighing as little as $1\frac{1}{2}$ pounds per cubic foot. There are some uses for which glass wool does not seem to be as desirable as the other two types of mineral wool, but such cases are perhaps exceptional. Probably as a general rule consumers would be well advised not to plan on installing loose glass wool themselves.

Mica Pellets are made from expanded vermiculite or aluminum magnesium silicate, a mineral found in Colorado and Montana. There is also a fleecy fill insulation wool made from the bark of redwood trees (e.g., *Palco*).

Batts or Pads

These are usually made from rock, slag, or glass wool in ready-made pads of different thicknesses, 15 to 23 inches wide, to fit the standard spacing between the studs in the walls of a house. They are available in various lengths to fit the longitudinal spaces and usually are backed with sheets of asphalt-impregnated paper serving as a vapor barrier.

Flexible Blankets

These consist of a relatively

thin layer of insulating material (thin, i.e., compared with batts) fastened between two sheets of paper, one of which is usually treated to serve as a vapor barrier. The insulating material may be processed wood fiber, animal hair, mineral wool, or a plant called eel-grass (*Zostera Marina*).

The Department of Agriculture, in its efforts to increase the consumption of "surplus" agricultural commodities, has instituted a program for the use of low-grade, short-staple cotton as an insulating material in building construction. Several firms are now making this cotton insulation in the form of long rolled strips which are cut to length on the job. These are 1, $1\frac{1}{2}$, 2, 3, or $3\frac{5}{8}$ inches thick and 16, 18, 20, and 24 inches wide, and have a vapor-proofed paper backing. The cotton is treated to make it fire-resistant and vermin-resistant. This is a new insulating material, and while the information on it seems favorable so far, it must be understood that the use of any new material or one which has not found application over a period of years in the particular climate and community, is fraught with some risk of giving unexpected difficulties in use. Some difficulties that might occur would be loss of vermin- or fire-resistant qualities, matting so as to produce increased density and loss of thermal resistance.

Rigid Insulating Boards and Slabs

These are made of various materials, such as wood fiber, asbestos cement, artificial resin, gypsum, and cane fiber. On new work they are applied directly to the structural frame and although they may be given a surface treatment or finish they are often left as installed. On remodeling or repair work, they can be placed over existing wall coverings if these are such as to provide a secure, even base. To be most effective, however, insulating boards should be installed in such a way that

there is at least a $\frac{3}{4}$ inch air space at each surface, closed at bottom and top, and with a number of intervening horizontal air-stops; the economy of this method is due to the fact that a half inch of insulating board when installed in this way is approximately as effective as an inch of board installed so that it is in contact on both faces with other building material.

Insulating boards of the same general type, appearance, and density may be assumed to be of similar effectiveness as heat insulators in house construction, as it is the way in which the insulating material encloses and walls off air space within its structure which mainly determines insulating effectiveness. The boards are generally less effective insulators than the batts and other materials discussed, because of their greater density. If their density were to be decreased sufficiently to give them very good thermal resistance (low conductivity), they would not have the strength and resistance to water absorption that is desirable for board-type insulation. If they must be installed in such a way as not to take advantage of an air space on each side, the one-half inch boards conduct heat several times as fast as $3\frac{5}{8}$ -inch thick mineral-wool insulation. Some wallboards have been impregnated with an arsenic compound as a protection against insect infestation. It is wise to avoid any insulating material of the wallboard type which has been so impregnated or treated, *unless it is definitely known* that the treating material is non-poisonous either in itself or when affected by moulds or when burning or smoldering in a fire.

Reflective Insulation

This is a relatively new type of insulating material and began to show great promise just about the time when the war made its manufacture in the best types no longer permissible, because of scarcity of metals. There are two common types of reflective insu-



Figure 5

Courtesy John-Manville Corp.

Showing how batt-type insulation is installed between the roof-rafters in an attic. The asphalt-treated paper vapor-barrier should be toward the inside of the house.

lation, one a thin crumpled sheet of aluminum, and a second kind, of which some may still be available, consisting of a paper or thin cardboard coated on one or both sides with a very thin film of reflective metal. This sort of insulation can be installed in the space between the studs, halfway between the inner and outer walls, and when so used will provide slightly more insulating effect than a flexible fiber blanket $\frac{1}{2}$ inch thick installed in the same manner. In this use, it will cut the heat loss through the wall to about half the value for the wall without insulation. If two "curtains" of the foil-covered paper are used, separated by $\frac{3}{4}$ inch air spaces from each other and from the wall covering, the insulating value will be about equivalent to a flexible fiber blanket of $1\frac{1}{2}$ inches thickness, installed in the middle of the wall, and the heat loss through the wall will be reduced to about one-third of its value with no insulating material. Where dust cannot be effectively excluded, and where the insulation must be

applied horizontally, certain expedients, easily applied by contractors conversant with the material are necessary to make reflective insulation perform well without deterioration over a period of many years.

Reflective insulation must always be used in conjunction with air spaces. The function of reflective insulation is to reduce the amount of heat transferred by radiation across an air space. It is important further that reflective insulation should make a tight partition between air spaces, particularly at top and bottom, so that air circulation cannot take place between these spaces.

It should be remembered that all insulation (except the reflective type) depends for its effectiveness primarily on the entrapment of large quantities of air in a myriad of small pockets. Each material has a density at which it is most efficient for a given use.

Selecting Insulating Material and the Contractor

With the above brief picture



Courtesy Johns-Manville Corp.

Figure 6

Method of insulating walls with granulated insulating material of the loose-fill type. Strips of siding are removed at various parts of the walls and holes drilled through the wall sheathing. Through these holes, the insulation is blown by air pressure.

of the variety of types of insulating materials, the householder will see why the choice of insulation has very commonly presented difficulties to the layman. The problem is simplified when it is realized that (excluding reflective insulations) insulations of the same general appearance and density will not differ in effectiveness appreciably when installed. Selection should therefore be made on the basis of thermal resistance afforded per square foot of material installed per dollar of cost, except in a case where the material is installed by the home owner himself, when ease of installation needs to be given special consideration. However chances should never be taken with an unknown or questionable contractor, since there are many tricks that can be done to cut corners in placing insulation, particularly in sidewalls; e.g., omission of material below windows and below firestops, blowing in too lightly, and failing to blow the space full up to the insertion opening. To aid subscribers in judging various insulations, a

table of some of the better-known types and makes of insulation, giving important data regarding each, has been compiled from data issued by the Bureau of Standards and other technical sources. It is not possible to give very definite information regarding costs of insulation installed, but the following figures will be helpful for purposes of estimation. It must be understood that the cost varies greatly with labor costs in a community, the remoteness of the community from the sources of supply, whether a long trip for the men and the materials and perhaps subsistence expenses for the men on the job must be provided for.

Costs of Material and Installation

Cost of batts or blankets, including installation, from 7 to 15c per sq. ft.; loose fill or granular material, 6c to 15c; reflective insulation somewhat less (if only a single layer is employed). For mineral wool, the cost (in a middle-western city) including labor and

material was found to vary over a fairly wide range for different locations in the house as follows: Unfloored attics, 9c to 14c per square foot installed, based on gross area; floored attics, 11c to 14c per square foot; enclosed or sealed slopes in attic walls, 11c to 15c, based on gross area (walls 17c to 20c when based on net wall area); walls of stucco, 17c to 20c per square foot, based on gross wall area. (Some blowing contractors quote higher figures, averaging up to 16c per square foot for a floored attic, and 18 to 24c for sloping attic spaces and for walls.) For mineral wool batts: Unfloored attic, 10c per square foot; vertical wall surfaces, 11c per square foot; on open sloping rafter construction, 12c per square foot.¹

There are long delays in the installation of insulating materials at the present time, running from four weeks to fifteen weeks. The time of the year at which such work can be done with the least delay will be February, March, April, and May, during which period, two to three weeks might be a normal waiting period. In connection with insulating work in general, it may be noted that the government has judged the industry to be "essential," so that both production and installation of the material are associated with the usual privileges respecting materials, machinery, manpower, use of gasoline and tires, etc., that go with essential industries. For the convenience of subscribers who may wish to compare various materials on the basis of figures furnished by bidders or manufacturers offering insulating material or

¹ Getting comparative costs on insulating materials and installation is difficult for the layman, and dealers will very often resist giving information which will permit direct comparisons to be made on a cost-per-square-foot basis. Consumers will find especially helpful in this connection, the information in the catalogs of the two large mail-order houses (Sears, Roebuck and Montgomery Ward), in which the information given includes cost per unit, coverage in square feet per unit, and heat-transmission value for each of several common types of insulation. In some localities, these firms offer insulation service including labor and material through their retail stores.

services in their own communities, values for both the thermal conductivity and thermal resistance are given in the table.

Effectiveness of Insulation Under Summertime Conditions

People who sell insulation talk a great deal about the value of the extra comfort produced in summer as well as the saving of fuel during the winter, but in doing this, they often mislead the consumer, for while the insulation in walls or roof does tend to reduce the rate at which heat penetrates the house on a summer day, there are circumstances, perhaps somewhat unusual or exceptional, in which the addition of insulation will prove disappointing from the standpoint of summertime comfort. This will occur when the external conditions and the thickness of insulation, etc., are such that at the hottest part of the day, the temperature of the room can go above about 83°. (The remedy is said to be more insulation, which often can be added if it is a problem of insulating a floor or roof.) The reason for this is that the insulation itself stores heat and gives it off again when the air becomes cooler outside; *the heat stored in the roof, and walls of a house would be lost more quickly in the cool of the evening if insulation were lacking.* The storage of heat on very hot days in summer is a problem that depends somewhat on the locality, for where the nights as well as the days are hot, the roof and walls would not cool quickly anyway, and there will perhaps be no great disadvantage in the somewhat slower rate of cooling caused by the presence of insulation. Coolness in living rooms and bedrooms will be greatly favored by proper "thermal housekeeping," so to speak, which includes the best possible ventilation of the attic, pulling shades down on the sunny side of the house, the use of awnings when practicable, keeping the hot midday air out of the house by closing windows well before

Typical Values for Various Insulating Materials

The most important considerations regarding insulation are: (1) its *density*, since the least dense (lightest) materials have the best heat insulating properties, as a rule; (2) *conductivity*, which is measured by the amount of heat, measured in "British thermal units," which can pass through a piece of the material an inch thick, per sq. ft. of material in an hour for one degree Fahrenheit difference in temperature between its two surfaces. The value of the conductivity is inversely related to the usefulness of the material, hence *thermal resistance*, which varies *directly* with its insulating value, is a more satisfactory figure to use. The higher this number, the better the material is as an insulator. Values of thermal conductivity and resistance are for 1 inch thickness of material and are average values. Differences in these values, when small, should not be considered important.

Name of Materials*	Description	Density lbs. per cu. ft.	Conductivity	Thermal Resistance
Mineral Wool		6.0	0.26	3.8
Glass Wool	Curled Pyrex glass fibers	1.5	0.27	3.7
Mica Pellets	Vermiculite	6.3	0.29	3.4
Palco Wool	Shredded bark of redwood trees	3.0	0.31	3.2
Cabot's Quilt	Eel grass between kraft paper	3.4 4.6	0.25 0.26	4.0 3.8
Balsam Wool	Chemically treated wood fibers between kraft paper	2.2	0.27	3.7
Linofelt	Flax fibers between paper	4.9	0.28	3.6
Insulite	Rigid sheets of wood pulp	16.2 16.9	0.34 0.34	2.9 2.9
Celotex	Rigid sheets of sugar cane fiber	13.2 14.8	0.34 0.34	2.9 2.9
Masonite and Temlok	Rigid sheets of wood fiber	15.0	0.33	3.0
Upson Strong-Bilt	Rigid sheets of wood fiber	32.5	0.43	2.3
Natur-Temp, etc., from various mfrs., distributed by Reynolds Metals Co., Richmond, Va., and Montgomery Ward	Cotton in blankets chemically treated to repel vermin and render it flame-resistant and fire-resistant	0.88	0.24	4.2

* These appear sometimes as generic terms, and sometimes as brands. With several materials, e.g., Rock Wool, conductivity figures are given for various densities per sq. ft.

the hottest period of the day, and opening all windows at night when outside air has again become cooler than the house. With such measures, faithfully applied, thermal insulation will usually be use-

ful in summer as well as in the heating season. Nevertheless there are more variables in the problem of insulation against summer heat than in insulation for fuel saving and such questions as the type



Figure 7

Courtesy Johns-Manville Corp.

Granulated loose-fill type insulation being blown in on top of the second-floor ceiling of a house having an unfinished attic. With a finished attic, floor boards at various intervals have to be removed in order to introduce the insulation. The blowing method is usually used when the walls are being insulated at the same time as the top-floor ceiling but is not essential, for the material can be applied on such a ceiling below an unfloored attic by pouring directly from the bag.

and massiveness of the construction of the building, the nature of the surroundings, the extent to which the building is shaded, the season of the year, the relation between day and night temperatures in the locality, and a number of other factors enter into and complicate the question.

The Bureau of Standards, speaking of the problem of insulation against summer heat, has said that "If there is no attic floor, a couple of inches of blanket or fill insulation put on top of the ceiling or a single layer of aluminum foil

tacked over the tops of the joists will greatly improve conditions." If the attic has a floor, the addition of insulation will not cause so great an improvement in shielding against summer heat, as if the attic were unfloored.

When insulation is placed in an attic floor or in a part of an attic floor and in the wall- and ceiling-space surrounding a room in the attic, there should be windows or louvered openings in the gable ends by which the angular space between the roof and the ceiling of the insulated room may be

ventilated. Ample ventilation is most important in summer, but some ventilation of the gable space is necessary throughout the winter too.

In conclusion, the reader should assume that insulating of a house or heated building is well worth doing whenever it is practicable and can be done at reasonable cost, especially under present conditions of restricted fuel supply, and in the face of the possibility that the fuel situation may become a great deal worse before it improves. For the most part, insulation work is done, not by the big manufacturers of the materials, but by local concerns of varying degrees of skill, knowledge, and responsibility. Anyone contracting for an insulation job will find it well worth while to make his arrangements with a strictly reputable and careful contractor, one whose financial and business references as checked with a local bank are of the best, and who has a reputation for carrying out the agreed specifications for the work correctly and conscientiously, without skimping. The contractor should be one who has good standing in the community, and a clear record of fair dealing with his customers. Above all, remember that in weatherproofing a home, good work by careful workmen under competent supervision is fully as important as use of the proper materials.

Corrections and Emendations to Consumers' Research Bulletin

Warm-Air Heating
Systems
Page 8, Col. 2
October '41

The address of the National Warm Air Heating and Air Conditioning Association is now 145 Public Square, Cleveland 14, Ohio.

High-Grade
Watches
Col. 378
ACB '42-'43

The distributor of *Omega* watches is now Norman M. Morris Watch Corp., Omega Division, 608 Fifth Ave., New York City 20.

Ways to Save Fuel
Page 25, Col. 1
January '43

Anthracite Industries Laboratories' Bulletin L38, Baffles for Stoker-Fired Boilers, formerly issued free, is now priced at 20c. (Obtainable from Anth. Ind. Lab., Primos, Delaware Co., Pa.)

Consumers' Obser-
vation Post
Page 29
June '43

Dr. Horace W. Soper is a past and not the present chairman of the American Medical Association's section in the field of gastroenterology.

No-Leak Faucet
Repair Set
Page 20
August 1943

Stuart-Marshall Sales Co., Inc., formerly distributors for this product, are no longer in business, and the manufacturer (The Keystone Brass & Rubber Co., 2701 N. Broad St., Philadelphia) has advised us that their faucet repair gadget can now be obtained from the Durst Mfg. Co., 468 B'way, New York City 13; or from the Keystone Company direct. The maker prefers, however, to have orders sent to the Durst Mfg. Co.

Chemical "Fuel-Savers" and "Soot-Removers"

THE ANXIETY of the consumer to get all possible heat from his fuel has provided a special opportunity to manufacturers to get into the business of promoting fuel-saving nostrums. The saving is claimed to be obtained either directly by improving combustion, or indirectly by removing soot from the heating surfaces of the furnace and so aiding the absorption of heat from the gases of combustion. They are usually offered as packages of dry chemicals; in some cases the dry material is thrown on the fire, and in others it is dissolved in water and the solution sprinkled over the fuel before firing.

These condiments-for-coal are sold at exceptionally high prices. A recently advertised "soot remover" costs \$1 for 48 ounces; this is said to be a full winter's supply for an average furnace. Their ingredients are condiments in more than one sense, for they have been, for the most part, simply packages of the cheapest of salts, such as sodium chloride (common salt), calcium chloride, sodium carbonate (washing soda), and borax, none of which cost more than a few cents per pound. With certain of these products, the fire is caused to burn with a bright yellow flame, which is cited as proof of improved combustion efficiency, with consequent saving of fuel. Actually the yellow flame indicates nothing in particular except that a salt of sodium is probably present in the fire.

The Federal Trade Commission has acted against several sellers of such products; a re-

cent case was that of the Marvel Laboratories, sellers of "Economy Coal-Saver" and "Marvel Coal-Pep," whose "acts and practices . . . [were found to] constitute unfair and deceptive acts and practices in commerce."

While chemical treatment of fuel has sometimes a slightly beneficial effect, it has been found quite worthless in the small quantities recommended by the purveyors of these pro-

number of proprietary products. Their report (in Bulletin 404—Burning of Coal and Coke Treated with Small Quantities of Chemicals, 25c from Superintendent of Documents, Washington, D.C.) states that:

The tests definitely disproved the claims of vendors for large saving of fuel, elimination of smoke and soot deposits, reduction of clinking, or any other change measurable in such tests.

The tests also showed that:

... the one definite effect of treatments that could be beneficial in the burning of coals is that they may reduce caking in the bed for those coals that are not themselves strongly caking. . . .

Water alone, applied in sufficient quantity thoroughly to wet the coal as fired, is as effective as any chemical except sodium carbonate, which is somewhat more effective if the quantity is 20 pounds per ton applied with 60 to 80 pounds of water.

(The emphasis in the preceding

quotation has been added by CR.) Other chemicals which the Bureau of Mines found to have some effect, but less than sodium carbonate, were boric

Some typical ads of proprietary "soot removers." Some years ago such products were much advertised and widely sold. Then for a period their popularity waned and they were little heard of. Now, with a general public acceptance of the need to save fuel by every means, a wide variety of specialties promising to remove soot and thereby save much fuel are again being promoted in newspaper and magazine advertising.

proprietary nostrums. The United States Bureau of Mines has investigated the effects produced by a variety of chemicals, including a considerable

acid, molybdenum oxide, and calcium chloride, but it was necessary to apply these at a rate of from 20 to 40 pounds per ton.

Carbon, the chief constituent of solid fuels, is so "activated" by certain chemicals that it ignites at a lower temperature than it otherwise would. Sodium carbonate in sufficient quantity provides some activation, but also increases the formation of carbon monoxide. For maximum over-all efficiency, the greatest possible proportion of both the solid fuel and of any carbon monoxide formed by combustion must be completely burned to carbon dioxide. If the conditions of the fire and of the air supply are unfavorable for complete combustion, heat is wasted by the passage up the chimney of unburned carbon monoxide. Under such conditions, therefore, the use of sodium carbonate would present little or no advantage; it is doubtful whether the treatment is worth while in any normal case. A consumer who does want to supply some chemical to his furnace fire might try adding sodium carbonate to the coal at the rate of from 20 to 40 pounds per ton, preferably by thoroughly wetting the fuel with a solution before firing. Such a practice, of course, could only be warranted if the carbonate can be gotten at a price very near wholesale, say at 2 or 3 cents a pound.

Chemical Soot Removal

The loss of fuel in the form of soot has been greatly exaggerated; fantastic figures as high as 30% to 50% have been quoted; actually the probable loss in domestic heating boilers due to soot is more likely to be around 5% or 6% of the fuel

burned. If dry chlorides of copper, tin, lead, or zinc are thrown on a hot fire, they will be vaporized by the heat of the fire and then deposited on the soot which lies on the heating surfaces of the boiler. Such soot can then be ignited and burned at a somewhat lower temperature than it otherwise would. A cheaper method is to use some of the less expensive salts of these metals with sodium chloride. The fire would then be brought up to a high temperature, and excess air be provided through the fire door damper to assure adequate combustion. Although some of the soot can be burned by this method, the deposit of ash on the heating surface is not removed; that would have to be wire-brushed off.

On the whole, the idea of removing soot by chemical means seems not to deserve the serious consideration of homeowners especially in the light of an expression of opinion by the National Board of Fire Underwriters (in which organization CR has much confidence in matters of this kind) that use of chemical soot-cleaning compounds should be discouraged except in emergencies. Recently, says the NBFU, these methods (which have been advocated by supposedly good authority) have been questioned, and no dependable authority has been found willing to vouch for the accuracy of the claims made regarding their

efficacy.

The Board of Fire Underwriters feels that the use of salt, scrap zinc, zinc compounds, etc., ought to be discouraged except in emergencies, and that cleaning of sooty surfaces should be by use of mechanical flue-cleaning devices such as wire scratch brushes.

Those who desire further information on "fuel savers" and "soot removers" can obtain the two following bulletins listed from the National Better Business Bureau, Chrysler Building, New York 17, N.Y., at 4c each: *Facts about Soot Removers*, 7 pages; *Facts about So-Called Coal Savers*, 4 pages.

* * *

Some dealers sell coal which has been treated with a solution of calcium chloride to allay the dust nuisance. In the hands of unscrupulous dealers, the treatment permits the undetected addition of some "slack" to good coal. It also tends to promote rusting of any iron surfaces with which the coal comes into contact, which is surely a bad thing to have happen at a time when heating equipment needs particularly to be preserved and safeguarded against damage. It seems particularly unfortunate at this time that a WPB Limitation Order in effect forbids the use of dust-allaying materials on coal other than the salt-base substances, such as calcium chloride, already mentioned. There can be no doubt that the effect of such hygroscopic (water-attracting) material will be to speed up deterioration of metal parts, particularly in automatic stokers, for experience has shown that corrosion and maintenance costs have been greatly increased and of equipment life decreased when chloride was used on coal.



A "Dark Era" for the Tool Buyer

THE STATE OF TRADE in the hardware business has been referred to by one magazine editor as a "dimout." As some who have tried to buy certain tools and supplies will have learned, many articles are getting to be pretty scarce, and some common and staple hardware items cannot be bought at all, except in secondhand stores and pawnshops. There are quite a number of other ordinary or commonplace hand tools that can be bought only from certain stores and from limited stocks. Sometimes some sort of priority application is even called for on the common tools and supplies needed by skilled workers in any of the mechanic trades. Supplies and equipment for plumbing and heating installations are available for the most part only on priority, especially when the item is of any considerable size and value. Farmers and suburbanites have long known that fence wire was hard to get, often unobtainable. Even the items and supplies used by sportsmen are scarce, although secondhand guns and rifles are still sold. Recently a few shells and cartridges were released for sale to farmers (for pest control)—a small quota, too, for sportsmen.

Farmers have an advantage in the buying of tools and hardware, for recently a new rule was promulgated that permits certain essential items of hardware to be supplied by dealers to farmers on a simple signed certification stating that the applicant for purchase is a farmer and that the items covered by the order will be used for the operation of a farm. This is a rather remarkable concession

by the WPB, for it does not call for the reading of the customary several pages of fine print and the filling out of a score or two of blanks on a complicated form, as government wartime forms rather regularly do. Anyway the new arrangement gives to the discerning consumer an idea of just how clearly the farmers succeeded in making themselves heard to their Congressmen in their protests (which were emphatic and numerous) at the endless and baffling paper work that had been imposed by the hosts of busy young lawyers and economists of the Office of Price Administration, the War Production Board, the Office of Defense Transportation, the county farm transportation committees, the farm machinery rationing boards, and the rest of the endlessly shifting and always-being-reorganized alphabet agencies piled up like Pelion upon Ossa. Items included in the new simplified method of purchase for farmers include auger bits, batteries, oil cans, harness hardware, rakes, hoes, knives, nails, wheel-barrows, and over a hundred other items as to which government men learned their vital importance to farmers about four months after they had slowed down or just about immobilized an appreciable fraction of the country's expert farm workers.

The big-city hardware merchants seem to do better in keeping their stocks approximately up to normal than stores in most of the smaller towns and cities. Indeed, some New York and other big-city stores appear to have been only slightly or moderately affected by

shortages. Low though the quality of their materials and workmanship are, tools sold in ten-cent stores and cut-rate hardware or outlet stores of various sorts are often the best available. All such tools tend to be of a very low grade; nevertheless they are in many cases good enough, considering their low price, for the occasional jobs around the home, especially when their user happens to be a person of no special mechanical skill or experience.

The tools and other durable articles which you own should be carefully guarded against rust, loss, abuse and misuse, so that they may be made to last as long as possible. Satisfactory rust protection for small tools which are not exposed to extreme dampness or to water can be provided by applying a thick coating of grease, or vaseline. (An oil film will not furnish lasting protection.) Then if the tool is a valuable one, wrap it in paraffin paper.

If there are any tools which are likely to be actually needed, now is a good time to look around for them, while a good or fair quality of the article may still be available at a price which is not too far out of line with past figures. (Tire chains are in this class for many motorists.) The mechanical, electrical, or radio hobbyist, particularly, whose training or skill gives him the possibility of furnishing valuable aid in the war effort either now or in the near future, will need to keep a close eye on the secondhand tool and parts market. Fortunately, most of the fairly expert hobbyists know where they can buy, even under the present tight

market conditions, such necessities as parts for amplifiers and other electrical gadgets, small gears, bearings, and the wide variety of unusual fittings and hardware items that enter into the work of any advanced

amateur in the home-craft field.

CR will be glad to help with this problem if subscribers' correspondence indicates that a sufficient number are interested in keeping up scientific or engineering hobbies of a sort

having direct or potential value in the war effort, or in the days after the war when skills and training will again be shifted on a huge scale from certain fields of work to others of a different, yet related character.

Cooking Methods Acquire New Importance in Times of Meat Scarcity

By B. W. GARDNER, JR., UNIVERSITY OF ILLINOIS

IN ORDER to obtain the maximum of nutrition from meat in a time of meat scarcity, the consumer should use care in cooking. The biological value of meat or its usefulness in the body as food, is lowered somewhat in preparing it. However, the losses can be held to a minimum if the drippings or the juices of the meat are cooked in or are used to make gravy. With meat which is seared for roasting and broiling, the losses cannot be recovered since the fats are chemically modified and become indigestible. This is true also when meat is burned by roasting, frying, or broiling it at too high a temperature.

Cooking by moist heat results in a greater loss of thiamine (vitamin B₁), riboflavin (vitamin B₂), and nicotinic acid (niacin), than when the cooking is by dry heat, as in roasting or broiling. Most of these water-soluble vitamins, however, can be saved if gravy is made and used. In all meat cookery, care should be taken to keep the temperatures low or moderate; this requires that in roasting the temperature should be kept at or near 300°-350°F, and in stewing the temperature should be kept a little

below the boiling point.

As to the use of gravy as a means of avoiding waste in meat cookery, it is to be remembered that the fats present in the gravy slow the digestion somewhat and, therefore, it may be undesirable to eat gravy with a meal which is rich in other respects (rich implying a fat piece of meat, a big piece of pie or pastry, ice cream, or desserts prepared with butter, hard sauce or whipped cream). It should be added that investigators consider that fats from animal sources in the so-called "shorter fatty acid series" are not so indigestible as other fats. The damage done to fats in over-heating is considered to be due largely to such substances as *acrolein* (which gives the irritating pungent odor noted when fats are burned) and the *peroxides*, which go with rancidity in fats. The destruction of two important nutrients (amino acids and vitamins) is principally the result of an oxidation process, and as a rule this proceeds more rapidly at higher temperatures. This should not argue against the browning of meat, for while browning causes some destruction of nutritive

value at the surface, it has a definite value in increasing palatability.

Most of the protein and vitamin losses are from the surface of the meat, and, therefore, the smaller the piece of meat (and all pieces of meat tend to be smaller these days due to poor judgment in setting up the rationing system as finally adopted), the greater the loss will be per pound. This is, of course, particularly true with hamburger where a tremendous surface area is produced by the grinding.

However, the depreciation in biological value is believed not to be very great. With boiling of beef, it is about 10%; with searing or burning of meat, it might be estimated to be 10% to 20%. Losses of water-soluble vitamins from the meat itself are as follows, approximately: thiamine, 30% when meat is roasted or broiled, 50% when braised; nicotinic acid, 15% when roasted or broiled, 35% when braised; riboflavin losses are about 15% for any method of cooking. The total average losses of riboflavin and nicotinic acid in the meat and drippings are about 10%, while the losses of thiamine are about 30%.

PHONOGRAPH RECORDS

By Walter F. Gruening

Please Note: Prices quoted do not include taxes. In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended.

AFTER a year's layoff, Victor has resumed production of M sets in their active list—regular sequence, as opposed to AM or automatic sequence sets. Welcome news for consumers who turn records by hand.

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Readers' letters plus my own experience convince me that records pressed since Pearl Harbor warp more easily than those pressed before, even though properly stored on edge, snugly flanked by other records. I take this as another sign of inferior material due to war shortages. We already know, of course, recent pressings are more brittle and gritty. It is not always possible to distinguish preferable older pressings from recent pressings but several guide posts follow:

All new releases beginning January 1942, of course, are recent pressings as are all Black Label Deccas and Columbia Record Classics. Records which your dealer orders for you are likely to be recent pressings. Records minus guide lines for the needle to the first groove are pre-war, as are Columbia Records without the microphone on the label and Victor M (manual) sets if purchased before the new lot reaches the market. Gold-colored printing on the label, identified by loose gold-bronze particles, is likely to appear only on older pressings, too.

Ratings of Phonograph Records

ORCHESTRA

Back-Stokowski: *Album 2. Arioso, Prelude, Andante Sostenuto.* All-American Orchestra under Stokowski. 6 sides, Columbia Set 541. \$3.50. Musicians frown on inflated dirge tempo arrangements like these by Stokowski. The most famous number—*Arioso*—drawn out to two sides here, is better played and recorded in the same arrangement on Victor 18498 and best played by Felix Salmond, cellist, on one side of decade-old, discontinued Columbia 50269. Recording of this set—harsh. Surfaces—slightly gritty.

Interpretation B
Fidelity of Recording B

Beethoven: *Symphony in C Major (Jena).* Janssen Symphony of Los Angeles under Janssen. 6 sides, Victor Set 946. \$3.50. In 1909 the musical director of the University of Jena announced the discovery of a symphony by Beethoven unknown previously. Those musicologists who do not dispute its authenticity place it at least 10 years, in point of composition, before the first of Beethoven's usually recognized nine symphonies—probably a work Beethoven thought too immature and too weak to publish. The performance recorded here fails to make the symphony sound like music worthy of repeated hearing. Surfaces are very quiet.

Interpretation B
Fidelity of Recording A

Dai-Keong Lee: *Prelude and Hula.* National Symphony Orchestra under Kindler. 2 sides, Victor 11-8452. \$1. I have no desire to hear again this empty music by a young Hawaiian. The recording is excellent, but there are "swishes" on side one of my disc.

Interpretation AA
Fidelity of Recording AA

Telemann: *Don Quichotte Suite.* Arthur Fiedler's Sinfonietta under Fiedler. 4 sides, Victor Set 945. \$2.50. Telemann was born in Magdeburg four years before Bach and became a prolific composer. His suite based on Cervantes' story is charming and skillfully contrived. Fiedler conducts with understanding, the recording is slightly harsh and lacking in bass, surfaces are moderately quiet.

Interpretation AA
Fidelity of Recording A

INSTRUMENTAL

Brahms: *Sonata, Op. 120 No. 1.* Lifschey (viola), Petri (piano). 5 sides. & **Bach:** *Suite for Unaccompanied Cello No. 6—Gavottes No. 1 & 2.* Lifschey (viola). 1 side. Columbia Set 487. \$3.50. This sonata and its companion piece, *Op. 120 No. 2*, both of which were composed for clarinet or viola and piano, bring to a close Brahms' compositions in chamber music. Only advanced listeners are likely to find this music intriguing—and some of them may find it dull. Surfaces are quiet.

Interpretation B
Fidelity of Recording AA

Grieg: *Ballade in G Minor (Op. 24).* Andersen (piano). 4 sides, Bost Set A6. \$3.75. The form—theme and variations—appeals principally to the intellect. The second disc of my set, bought at a retail shop which ordered it for me, was warped. Excessive surface noise mars the work of soloist Stell Andersen and the recording engineers.

Interpretation A
Fidelity of Recording B

Mozart: *Marriage of Figaro—Overture & Mendelssohn:* *A Midsummer Night's Dream—Scherzo.* Luboshutz & Nemenoff (duo-pianists). 2 sides, Victor 11-8455. \$1. It is true the repertoire for two pianos suffers from a lack of original compositions, necessitating arrangements of music written for other instruments. I cannot imagine, however, why anyone but a student of two piano playing should purchase this record in preference to the superb orchestral performances already recorded.

Interpretation A
Fidelity of Recording A

Mulet: *Toccato & Vierne:* *Scherzo.* Fox (organ). 2 sides, Victor 11-8467. \$1. The *Toccato* begins softly, works up to a tremendous crescendo. The *Scherzo* is soft throughout. The recording is not very successful for the echo of Girard College Chapel prevents clarity and the soft passages are recorded at such a low volume level that needle scratch overshadows them. The *Scherzo* is better recorded on Tone Art disc TA3.

Interpretation A
Fidelity of Recording B

VOCAL

Mozart: *Don Giovanni—Era Gia Alquanto.* Bampton (soprano) Johnson (tenor) & *Non Mi Dir, Bell' Idol Mio.* Bampton (soprano). 2 sides, Victor 11-8466. \$1. Rose Bampton possesses neither mastery of style nor sufficient vocal equipment to sing Donna Anna with authority, as is quickly revealed by comparison with Ina Souez's singing of these arias in Victor's superb complete opera set. Hardesty Johnson's voice is heard less than a quarter of a minute. The recording tends toward harshness, surface noises are audible.

Interpretation B
Fidelity of Recording A

Puccini: *La Boheme—Act IV (7 sides) & Mimi's Farewell (1 side).* Perli, Andreva, Nash, Brownlee, Alva, Easton under Beecham. Columbia Set 274, \$4.50. I am one of those who is enthralled even now by the beauty of this music. Young persons, hearing it for the first time, invariably love it. Commendable are the performance and recording of this previously released set featured by Columbia in a new illustrated-cover album as a Record Classic. Surfaces are quiet.

Interpretation AA
Fidelity of Recording AA

Taylor-Brahe: Bless This House & Browning-Beach: Ah Love But A Day. Swarthout (mezzo-soprano). 2 sides, Victor 10-1050. 75c. Two songs of no special distinction neither sung nor recorded as well as half a dozen previously issued sides by Gladys Swarthout. Surfaces of my record hiss loudly in a few places.

Interpretation A
Fidelity of Recording A

Traditional: *Kol Nidre & Eli Eli.* Waldman (cantor). 2 sides, Asch H6010. \$1. (Asch Recordings, 117 West 46 Street, New York City.) Organ accompanied, praiseworthy, best available performances of the Hebrew mourning prayer, *Kol Nidre*, and the Yiddish lament, *Eli Eli*. Good surfaces. In *Eli Eli* tricks acceptable in the synagogue though not in the concert hall "color" the performance but prove far less objectionable than Cantor Rosenblatt's cadenzas in both numbers on discontinued Victor 9792. Nina Koshetz sings *Eli Eli*, however, with more artistry on discontinued Victor 9208. Asch Recordings have issued a score of Jewish and Yiddish records listed in their circular.

Interpretation A
Fidelity of Recording AA

Wagner: Traume & Im Treibhaus. Lehmann (soprano). 2 sides, Columbia 71469. \$1. Two studies for *Tristan und Isolde* which form part of the group of five songs Wagner composed to poems by Mathilde Wesendonck. Lotte Lehmann sings them sensitively to piano accompaniment. These and one other song from Wagner's group are offered by Helen Traubel with less subtlety but with orchestral accompaniment in Victor Set 872 which has just been re-issued in an art album. Surfaces of Columbia 71469 are quiet.

Interpretation AA
Fidelity of Recording AA

LIGHT, POPULAR, FOLK, AND MISCELLANEOUS

Adamson-McHugh: Comin' In on a Wing and a Prayer & Run On. Golden Gate Quartet (singers). 2 sides, Okeh 6713. 35c. Except for half a chorus when the tenor takes matters in his own hands, *Comin' In* is creditably performed in jazz-spiritual style as is the selection *overside*. Surfaces are noisy.

Interpretation A
Fidelity of Recording AA

Autry-Rose: You'll Be Sorry & Autry-Rose-Whitley: I Hang my Head and Cry. Autry (baritone). 2 sides, Okeh 6627. 35c. The popular cowboy radio singer does these numbers in strict tempo with no expression, to the accompaniment of a "string band." Nevertheless, his admirers will enjoy his performance.

Interpretation B
Fidelity of Recording AA

Burke-Van Heusen: Sunday, Monday or Always & If You Please

Sinatra (baritone) 2 sides, Columbia 36679. 50c.

Interpretation A
Fidelity of Recording A

Crosby (baritone) 2 sides, Decca 18561. 50c.

Interpretation AA
Fidelity of Recording AA

Hit songs from the motion picture "Dixie" in which Bing Crosby starred. Sinatra's pale tones suffer when compared to the robust and colorful crooning of Crosby. On both discs supporting choral arrangements and performances are excellent, but Crosby and his associates get better recording. The four surfaces are quiet.

Gannon-Steiner: It Can't Be Wrong & Adamson-McHugh: Comin' In on a Wing and a Prayer. Four Vagabonds (singers). 2 sides, Bluebird 30-0815. 35c. *Comin' In* comes off better than *It Can't Be Wrong* but neither of these all-vocal performances deserves high praise.

Interpretation B
Fidelity of Recording AA

Lubinsky: Gay Vienna Waltz and Johnny Doughboy Polka. Savoy-Musette Quintette. 2 sides, Savoy 510, 75c. (Savoy Record Company, 58 Market Street, Newark, N.J.) Tuneful dances played by an orchestra which appears to consist of violin, piano, accordion, saxophone, bass. The wide range recording offers better than usual bass reproduction. Surfaces are clearly audible.

Interpretation AA
Fidelity of Recording A

Nemo-Saxon: There'll Soon Be a Rainbow & Rule-Ricca-Loman: Goodbye, Sue. Como (baritone). 2 sides, Victor 20-1538. 50c. Sentimental numbers arranged for baritone and mixed chorus and sung *marche funebre*. There are swishes on my pressing of *Rainbow*.

Interpretation A
Fidelity of Recording B

Pablo: Mercury Waltz & Ponce: Estrellita. Don Pablo and His Orchestra. 2 sides, Decca 18559. 50c. Waltzes played rather badly by a small orchestra which Decca's press release claims "has been creating a furor in the Middle West." For dancing. Noisy surfaces, and buzzes.

Interpretation C
Fidelity of Recording C

Walker: Miss Molly & Jenkins: Home in San Antone. Bob Wills and His Texas Playboys. 2 sides, Okeh 6710. 35c. Two fast stepping "cowboy" numbers played up to the hilt by an instrumental group with singers.

Interpretation AA
Fidelity of Recording AA

Chicago Jazz Classics. Benny Goodman and His Boys. 8 sides, Brunswick Set 1007. \$3.50. Repressing of eight sides recorded by clarinetist Benny Goodman and his orchestra in 1928-29. Included are *Muskrat Gamble*, *Wolverine Blues*, *After Awhile*, *Shirt Tail Stomp*, *Jungle Blues*, and others. To me one of the least interesting albums in this series.

Interpretation A
Fidelity of Recording B

Concert in the Park. Decca Band under Colling. 8 sides, Decca Set 338. \$2.50. A thoroughly enjoyable performance of light, diversified music played at band concerts the country over. Included are such favorites as *The Band Played On*, *Ta-Ra-Ra-Bom-Der-E*, *Blue Danube Waltz*, *Missouri Waltz*, *Pan-Americana*, *N. Y. Hippodrome March*.

Interpretation AA
Fidelity of Recording A

A Duke Ellington Panorama. Duke Ellington & His Orchestra. 8 sides, Victor Set P138. \$2.50. A cross-section of favorite numbers by the jazz composer Duke Ellington. The recordings were made between 1927 and 1940. Included are *East St. Louis Toodle-oo*, *The Mooche*, *Ring Dem Bells*, *Mood Indigo*, *Stompy Jones*, *Della Serenade*, *Dusk*, *Warm Valley*. Surface noise is barely audible. Over all, I prefer the comparable set, *Ellingtonia*, Brunswick B1000.

Interpretation AA
Fidelity of Recording B

Folk Songs: Monotonously Rings the Little Bell & The Red Sarafan. General Platoff Don Cossack Chorus under Kosturkoff. 2 sides, Victor 11-8454. \$1. Two famous Russian folk songs. In *Monotonously Rings*, a tenor sings against a humming choral background. In *The Red Sarafan* the tenor and the chorus divide the infectious melody.

Interpretation AA
Fidelity of Recording A

Frontier Ballads and Cowboy Songs. Bender & McMichon (baritones) and Country Dance Orchestra. 8 sides, Asch Set 410. \$2.50. There's an authentic ring to this set that is absent when a crooner takes over. The ballads and songs are forthright. Included are *Sam Hall*, *I Was Born a Thousand Years Ago*, *Old Joe Clark*, *Arkansas Traveler*, *Sweet Betsy from Pike*, *Mustang Grey*, *Jesse James*, *Buffalo Skinners*. Surfaces are good.

Interpretation A
Fidelity of Recording AA

Harlem Jazz, 1930. Duke Ellington, Don Redman, Fletcher Henderson, Luis Russell, with their orchestras. 8 sides, Brunswick Set 1009. \$3.50. Four jazz bands popular in Harlem are represented with two sides each. The performances, recorded 1929-1931, offer excellent examples of the styles of that period.

Interpretation AA
Fidelity of Recording B

Jimmie Noone's Apex Club Orchestra. 8 sides, Brunswick Set 1006. \$3.50. "The Dean of Modern Hot Clarinetists," as the blurb states, plays in his distinctive style jazz numbers recorded in 1928.

Interpretation A
Fidelity of Recording B

Pine Top Smith (piano). 4 sides, Brunswick Set 1002. \$2. One of the earliest Boogie Woogie pianists recorded these selections in 1928 and 1929. Interesting principally to students of this style.

Interpretation A
Fidelity of Recording B

Songfest. Boston Pops Orchestra under Fiedler. 2 sides, Victor 11-8453. \$1. A medley of eleven songs most Americans over forty can hum at the mere mention of the titles. Included are *Sweet Adeline*, *Put on Your Old Gray Bonnet*, *Let Me Call You Sweetheart*, *Pack up Your Troubles*, *Smiles*, *Old Apple Tree*, *Take Me Out to the Ball Game*. The full orchestra plays one chorus of each loud and straight.

Interpretation AA
Fidelity of Recording A

Ratings of Motion Pictures



This section aims to give critical consumers a digest of opinion from a number of reviews, ranging from the motion picture trade press to Parents' Magazine, which rates motion pictures not only on their quality as entertainment but on their suitability in various aspects for children.

It should be emphasized that the motion picture ratings which follow do not represent the judgment of a single person but are based on an analysis of the reviews appearing in some 20 different periodicals. (See August 1943 issue for sources of the reviews.)

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), and C (not recommended).

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure
biog—biography
car—cartoon
com—comedy
cri—crime and capture of criminals
doc—documentary
dr—drama
fant—fantasy
hist—founded on historical incident
mel—melodrama

mus—musical
mys—mystery
nov—dramatization of a novel
rom—romance
soc—social-problem drama
t—in technicolor
trav—travelogue
war—dealing with the lives of people in wartime
wes—western

A	B	C		
—	7	5	Above Suspicion	war-com A
3	8	3	Action in the North Atlantic	war-dr A
—	3	2	Adventures of a Rookie	war-com AYC
—	5	2	Aerial Gunner	war-mel AYC
—	1	7	After Midnight with Boston Blackie	cri-mel A
—	6	6	Air Raid Wardens	com AYC
—	2	5	Alaska Highway	mel AY
—	4	1	Alibi	mys-mel A
—	4	7	All by Myself	mus-com A
1	7	6	Amazing Mrs. Holiday, The	war-mus-dr AYC
—	2	5	Ape Man, The	mel A
—	6	3	Appointment in Berlin	war-mel A
3	9	3	Assignment in Brittany	war-mel AYC
—	9	1	At Dawn We Die	war-mel AY
—	10	5	Background to Danger	war-mel AYC
—	2	3	Bar 20	wes AYC
4	7	4	Bataan	war-dr A
—	7	3	Behind the Rising Sun	war-dr A
—	12	3	Best Foot Forward	mus-com-t A
—	3	2	Billy the Kid in Western Cyclone	wes AYC
—	—	3	Black Market Rustlers	mus-wes AYC
—	1	7	Black Raven, The	cri-mys AYC
3	8	5	Bombardier	war-dr AYC
—	4	7	Bomber's Moon	war-mel AYC
—	—	5	Border Buckaroos	mus-wes AYC
—	3	—	Bordertown Gun Fighters	wes AYC
—	2	5	Boy from Stalingrad, The	war-dr A
1	3	—	Buckskin Frontier	wes AYC
2	9	4	Cabin in the Sky (all negro)	mus-com A
—	1	9	Calaboose	cri-com AY
—	1	3	Calling Wild Bill Elliott	wes AYC
—	3	1	Carson City Cyclone	wes AYC
—	6	3	Chatterbox	mus-com AYC
2	11	1	Chetniks	war-mel AYC
2	9	4	China	war-mel A
—	3	6	City Without Men	war-mel A
1	4	—	Claudia	com A

A	B	C		
1	2	—	Coastal Command	war-dr AYC
1	5	1	Colt Comrades	wes AYC
2	9	5	Coney Island	mus-com-t A
2	10	3	Constant Nymph, The	dr A
—	5	4	Corregidor	war-dr A
—	2	4	Cowboy Commandos	war-wes AYC
—	6	3	Cowboy in Manhattan	mus-wes AYC
4	11	1	Crash Dive	war-mel-t AY
—	5	4	Crime Doctor, The	cri-dr AYC
—	8	6	Crystal Ball, The	com A
—	3	2	Danger, Women at Work	com A
—	3	3	Days of Old Cheyenne	wes AYC
8	1	—	Desert Victory	war-doc AY
1	6	2	Destroyer	war-mel AYC
—	14	3	Dixie	mus-com-t A
1	3	2	Dr. Gillespie's Criminal Case	mel A
1	8	7	DuBarry Was a Lady	mus-com-t A
4	7	2	Edge of Darkness	war-dr A
—	3	6	Eyes of the Underworld	cri-mel A
—	4	6	Falcon in Danger, The	cri-mel AYC
—	9	4	Falcon Strikes Back, The	cri-mel A
—	6	3	Fall In	war-com AYC
1	8	1	Fallen Sparrow, The	war-mys A
—	1	3	False Faces	cri-mys AYC
—	2	1	Fighting Sea Monsters	doc AYC
—	5	1	Fire in the Straw	dr A
—	3	6	First Comes Courage	war-dr A
1	12	2	Five Graves to Cairo	war-mel A
—	10	6	Flight for Freedom	war-dr A
—	—	5	Follies Girl	mus-com A
—	6	2	Follow the Band	mus-com A
7	7	2	For Whom the Bell Tolls	war-dr-t A
2	12	—	Forever and a Day	war-dr AYC
—	5	2	Frontier Badmen	wes AYC
—	3	2	Frontier Fury	wes AY
—	4	1	Fugitive from Sonora	wes AYC
—	3	6	Gals, Incorporated	mus-com A
—	2	3	Gentle Gangster, A	cri-mel AYC
—	5	3	Get Going	mus-com AYC
—	2	1	Ghost Rider, The	wes AYC
—	1	7	Ghosts on the Loose	war-com AYC
1	4	12	Gildersleeve's Bad Day	cri-com AYC
—	3	—	Girl Crazy	mus-com AYC
—	3	5	Girls in Chains	soc-mel A
—	2	3	Good Fellows, The	com AYC
—	6	3	Good Luck, Mr. Yates	war-dr AYC
—	1	6	Good Morning, Judge	mus-com A
—	2	1	Guadalajara	mus-com A
—	1	2	Gyandev of India	biog AY
2	9	3	Hangmen Also Die	war-dr A
2	3	2	Harrigan's Kid	mel AYC
—	9	4	He Hired the Boss	cri-com AYC
—	7	4	He's My Guy	mus-com A
—	1	6	Headin' for God's Country	war-mel AYC
—	7	2	Heart of a Nation, The	war-mel A
4	10	—	Heaven Can Wait	dr-t A
—	12	3	Hello, Frisco, Hello	mus-com-t A
—	5	2	Henry Aldrich Swings It	mus-com AYC
—	3	4	Here Comes Kelly	com AY
3	9	4	Hers to Hold	war-mus-dr AYC
—	6	2	Hi, Buddy	mel AYC
—	7	3	Hi Diddle Diddle	war-mus-com A
—	4	7	Hi 'Ya Chum	mus-com AYC
—	5	2	High Explosive	mel A
2	7	4	Hit Parade of 1943	mus-com A
1	10	—	Hit the Ice	mus-com AYC
1	9	4	Hitler's Children	war-dr A
—	5	5	Hitler's Madman (originally Hitler's Hangman)	war-dr A
—	6	—	Holy Matrimony	nov-com A
—	3	4	Honeymoon Lodge	mus-com A
—	3	1	Hoosier Holiday	war-mus-com AYC
—	4	2	Hoppy Serves a Writ	wes AYC
1	2	2	Hostages	war-nov A

A	B	C				A	B	C			
1	5	—	I Dood It	mus-com	A	—	1	2	Riders of the Rio Grande	war-mel	AYC
—	5	—	I Escaped from the Gestapo	war-mel	A	—	5	—	Ridin' Down the Canyon	mus-wes	AYC
—	7	6	I Walked with a Zombie	mys-mel	A	—	4	1	Robin Hood of the Range	mus-wes	AYC
2	4	—	Idaho	mus-wes	AYC	1	1	3	Russian Story, The	hist	A
—	7	8	It Ain't Hay	com	AYC	—	5	—	Saddles and Sagebrush	mus-wes	AYC
—	5	4	It's a Great Life	com	AYC	—	1	4	Saint Meets the Tiger, The	cri-mel	AYC
—	5	5	Jitterbugs	mus-cri-com	A	6	6	1	Saludos Amigos	car	AYC
1	3	—	Johnny Come Lately	dr	AY	—	3	7	Salute for Three	war-mus-com	A
—	6	2	Johnny Doughboy	mus-com	AY	1	5	2	Salute to the Marines	war-mel-t	AYC
—	3	3	Junior Army	dr	AYC	—	3	3	Sante Fe Scouts	wes	AYC
—	6	—	Kansan, The	wes	AYC	—	3	9	Sarong Girl	mus-com	A
—	1	6	Keep 'Em Slugging	cri-mel	AYC	—	5	2	Secrets of the Underground	war-mel	AYC
1	4	—	King of the Cowboys	war-mus-wes	AYC	8	8	—	Seventh Victim, The	mys-mel	A
—	3	7	Ladies' Day	com	A	—	4	2	Shadow of a Doubt	cri-dr	A
—	5	4	Lady Bodyguard	mel	A	—	1	6	Shantytown	com	AYC
10	6	—	Lady of Burlesque	cri-com	A	—	6	4	She Has What It Takes	mus-com	A
—	4	1	Lady Takes a Chance, A	com	A	—	2	2	Sherlock Holmes and the Secret Weapon	war-mel	AY
1	3	1	Lassie Come Home	nov-t	AYC	—	4	2	Shrine of Victory, The	war-doc	AYC
—	3	2	Last Will of Dr. Mabuse, The	war-mel	A	—	2	—	Silver Spurs	mus-wes	AYC
—	5	1	Law of the Northwest	mel	AYC	—	6	3	Simon Bolivar (See Life of Simon Bolivar)	war-mus-com	AYC
—	2	3	Law Rides Again, The	wes	AYC	—	1	3	Sky's the Limit, The	war-mus-com	AYC
—	6	2	Leather Burners, The	wes	AYC	—	6	8	Sleepy Lagoon	mus-dr	AYC
—	6	8	Leopard Man, The	cri-mel	A	—	6	2	Slightly Dangerous	com	A
—	8	4	Let's Face It	war-mus-com	A	6	2	1	So Proudly We Hail	war-dr	AY
—	2	5	Life of Simon Bolivar	hist	A	—	5	1	So This Is Washington	war-com	AYC
—	3	2	Man from Down Under, The	war-mel	A	—	5	1	Someone to Remember	com	A
—	3	—	Man from Thunder River	wes	AYC	2	8	4	Something to Shout About	mus-com	A
—	5	1	Mantrap, The	cri-mys	AYC	5	8	1	Somewhere in France	war-mel	AY
—	7	6	Margin for Error	war-dr	A	1	5	1	Song of Texas	mus-wes	AYC
—	9	5	Meanest Man in the World, The	com	A	3	6	2	Spitfire	war-biog	AYC
—	5	1	Melody Parade	mus-com	AYC	—	7	—	Spotlight Scandals	mus-com	A
—	4	—	Mexicali Rose (re-issued)	mus-wes	AYC	—	2	5	Spy Train	war-mel	A
—	2	5	Mexican Spitfire's Blessed Event	com	A	—	6	3	Squadron Leader X	war-mel	AY
4	4	6	Mission to Moscow	propaganda	A	5	10	3	Stage Door Canteen	war-mus-com	AY
8	6	1	Moon Is Down, The	war-dr	A	1	12	2	Stormy Weather (all negro)	mus-dr	A
5	13	1	More the Merrier, The	war-com	A	—	3	1	Stranger from Pecos, The	wes	AYC
—	8	7	Mr. Big	mus-com	A	1	6	2	Stranger in Town, A	cri-com	AYC
2	8	3	Mr. Lucky	cri-war-com	A	—	4	3	Submarine Alert	war-mel	A
—	6	2	Murder in Times Square	cri-mel	A	—	2	3	Submarine Base	war-mel	A
—	6	—	Murder on the Waterfront	war-mel	A	—	3	4	Swing Shift Maisie	war-com	A
5	8	1	My Friend Flicka	dr-t	AYC	—	4	2	Swing Your Partner	mus-com	AYC
—	5	6	Mysterious Doctor, The	mys-mel	A	—	5	7	Tahiti Honey	mus-com	A
1	12	—	Next of Kin, The	war-mel	A	—	3	2	Tartu	war-mel	A
—	4	5	Night Plane from Chungking	war-mel	AY	—	8	5	Tarzan Triumphs	war-mel	AYC
—	5	4	Night to Remember, A	mys	AYC	—	6	3	Taxi, Mister	com	A
—	3	4	No Place for a Lady	cri-mys	AY	—	3	2	Terror House	mys-mel	A
—	2	1	Nobody's Darling	mus-dr	AYC	2	4	—	Thank Your Lucky Stars	mus-com	AYC
—	5	5	One Dangerous Night	mys	AYC	1	5	1	That Nasty Nuisance	war-com	AYC
3	3	—	Our Lady of Paris	doc	AYC	1	7	1	They Came to Blow Up America	war-mel	AYC
—	2	5	Outlaw, The	wes	A	11	5	—	They Got Me Covered	war-com	A
2	6	5	Ox-Bow Incident, The	wes-mel	A	7	5	—	This Is the Army	war-mus-t	AYC
—	1	2	Passion Island	mel	A	8	5	1	This Land Is Mine	war-dr	A
—	2	2	Passport to Suez	war-mys	AYC	—	7	7	Three Hearts for Julia	war-com	A
—	5	3	Payoff, The	cri-mel	A	—	6	5	Thumbs Up	war-mus-com	AYC
—	1	6	Petticoat Larceny	cri-mel	A	—	9	2	Tonight We Raid Calais	war-mel	A
1	5	1	Phantom of the Opera	mus-dr-t	A	—	3	2	Tornado	mel	A
—	9	3	Pilot No. 5	war-mel	AYC	—	4	1	True to Life	mus-dr	AYC
—	5	4	Power of the Press	cri-mel	AYC	—	5	9	Two Senoritas from Chicago	mus-com	A
—	6	6	Powers Girl, The	mus-com	A	11	1	1	Two Tickets to London	war-mus-dr	AYC
—	2	4	Prairie Chickens	com	AYC	2	8	1	Victory Through Air Power	car-propaganda-t	AYC
2	4	2	Prelude to War	doc	A	3	6	—	Watch on the Rhine	war-dr	A
1	8	3	Presenting Lily Mars	mus-com	A	—	1	2	West of Texas	mus-wes	AYC
—	3	4	Purple V, The	war-mel	AYC	—	2	3	West Side Kid, The	cri-mel	A
—	5	6	Quiet Please, Murder	war-cri-mel	A	—	6	6	We've Never Been Licked	war-mel	AYC
—	3	2	Rangers Take Over, The	mus-wes	AYC	—	5	5	What's Buzzin', Cousin?	mus-com	AYC
3	11	3	Reap the Wild Wind	mel-t	AYC	—	9	3	When Johnny Comes Marching Home	war-mus-com	AYC
—	3	6	Redhead from Manhattan	com	A	—	4	10	Whistling in Dixie	cri-mys	AYC
—	8	7	Reunion (in France)	war-mel	A	—	1	3	White Savage	mel-t	A
—	7	3	Reveille with Beverly	war-mus-com	AYC	—	5	—	Wild Horse Rustlers	war-wes	AYC
—	6	—	Revenge of the Zombies	war-mel	A	—	2	1	Wild Horse Stampede	wes	AYC
—	6	3	Rhythm of the Islands	mus-com	A	—	4	5	World of Plenty	propaganda	A
—	5	3	Rhythm Parade	mus-com	A	—	3	1	Yanks Ahoy	war-com	AYC
—	5	—	Ride, Tenderfoot, Ride (re-issued)	mus-wes	AYC	—	5	5	You Can't Beat the Law	mel	A
—	3	1	Riders of the Northwest Mounted	mel	AYC	—	6	1	Young and Willing	com	A
—	—	—				—	6	1	Young Ideas	com	A

The Consumers' Observation Post

[Continued from page 41]

VICTORY GARDENERS who have successfully raised their families' winter supply of vegetables this past summer are urged also to turn their attention to providing their own fish. The government has just issued a little pamphlet entitled "Fish for Food from Farm Ponds", which your Congressman or Senator will be glad to have sent to you, in which the claim is made that "one acre of fertilized pond ... will produce two or three times as much meat as the average person consumes." Since the authors estimate that the annual consumption of meat needed to maintain health and vigor is something like 163 pounds per person per year you can see what a lot of fish can be raised—if you have the acre of water the year-round and happen to like fish pretty well.

* * *

HALF-SOLES aren't wearing so well these days. Your shoemaker will tell you, if you haven't discovered the fact for yourself. The difficulty seems to be that top grades of leather even for repairs are reserved for the exclusive use of the military and for lend-lease requirements. In an effort to ease the situation, the Quartermaster Corps recently released three million pairs of half-soles from the Army's stocks for civilian use.

* * *

TOYS for Christmas gifts should be purchased early this year. Stocks will be smaller than usual because there is a great scarcity of materials including wood, steel wire, and lacquer. One of the best selling items is kits of toy model airplanes to be assembled. In addition to the amusement furnished by such "toys", they have great training value in teaching boys to identify and distinguish the characteristics of friendly and hostile craft.

* * *

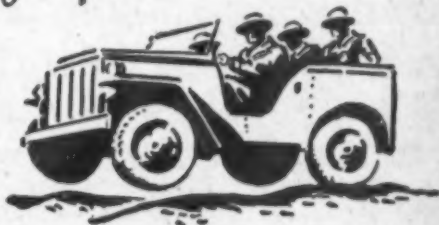
WEDDING RINGS are being bootlegged and sold on the black market, according to an executive of the jewelry trade. It seems that the demand outstrips the supply in some sections because of WPB restrictions on the use of gold for jewelry—in spite of the fact that we have practically the world's gold supply buried at Fort Knox. Part of the increase in demand is reported to be due to the preference of servicemen for a double ring ceremony.

* * *

NAPHTHA IS NOT GASOLINE, but it seems to make the old bus run in certain parts of the country. Wisconsin is reported to be selling a lot more cleaning fluid of this type than usual, all properly marked "Naphtha—Not to be Used for Motor Fuel". Naphtha is not rationed and the OPA is having trouble establishing a definition of what is naphtha—which is unrationed—and what is gasoline—which is. Tight specifications for each product have still to be written, and that's a tough job for the OPA lawyers, many of whom don't know naphtha from harness oil except as they read about it in a book.

No Room for Excess Baggage in a Jeep!

LET your soldier boy buy his Christmas present at the PX (Post Exchange to you). He can't use bulky items, so just send him the money and his PX will do the rest. What are PX's? What brands do they sell and what items are most in demand? Read "Let Him Buy It at the Post Exchange" in Consumers' Research Bulletin for November.



To make sure of receiving your copy, enter your subscription now. You will find a handy subscription blank on the next page—and please pass the extra one along to a friend.

RESTRICTIONS which have prohibited the production of electric irons may possibly be relaxed according to recent announcements. It is understood that the first-quarter allotment of steel for 1944 will include a substantial amount for manufacture of electric irons, and there is talk already that manufacture of badly needed washing machines and electric refrigerators will at least be a possibility in the future. Between the release of the steel and the availability of the finished product, however, there is a necessary interval of six months or so and consumers' demand will undoubtedly far outrun the supply at the beginning of the new production.

* * *

NEW PRODUCTS: Morley "Buttonaid Kit", containing a hundred buttons ranging in size from buttons for overcoats to small white buttons for men's shirts and shorts, is sold for 79 cents by Singer Sewing Center, 95 Liberty Street, New York City. Buttons are claimed by the manufacturer, The Morley Co., Portsmouth, N.H., to be made from plastic, or fiber with a plastic coating. The larger buttons are not so attractive in appearance as some other types still available in large city five-and-dime stores, but the man who is doing his own repairing these days will be glad of the convenience of having a selection of all the various sizes he is likely to need nicely assembled ready for use.

CLOTHES HANGERS are expensive and hard to find these days, and many clever attempts are being made to fabricate substitutes for scarce metals. One interesting device for hanging skirts is made entirely of wood by Kenneth E. Luger Co., Minneapolis, and was sold at 29 cents in the May Department Stores. The hanger is made of pieces of 1/4" and 1/2" dowels and is adjustable for different waist measurements. The center or hanger post may be moved to keep the hanger in balance. The same stores also sell a plastic hanger with a metal hook for hanging up a garment; this sells for 59 cents and is somewhat better designed. It is called the Fairy brand, made by All-Styles Company, New York City. Shaped like the conventional hanger it has slots at both ends for hanging up skirts and slips. It may be used both for garments and skirts, while the wooden hanger is suitable only for skirts.

ANOTHER HOUSEHOLD DEVICE made entirely of wooden dowels except for 1 1/2 dozen metal brads is the Auerback Slicks No. 1 clothes drier. It is a collapsible, four-legged rack made of dowels of two sizes, 5/16" and 11/16", well-finished and smooth so that they are not likely to snag fine garments. The dimensions of the base are somewhat small for stability, although with light garments this factor is probably not of great importance. The drier folds almost flat to dimensions about 37" x 18-1/2" x 3". It sells for something like \$1.35 in eastern department stores.

* * *

SUBSTITUTES: Some ingenious manufacturer has made up for the shortage of chamois skins by sewing together a large number of small, torn, damaged, or otherwise defective scrap bits of chamois about three-inches square into a rectangle about 14" x 17". These have been selling for 20c at Woolworth stores, and are probably available in other 10-cent stores.

GIVE THESE BLANKS TO FRIENDS

GIVE THESE BLANKS TO FRIENDS

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CR-10-43

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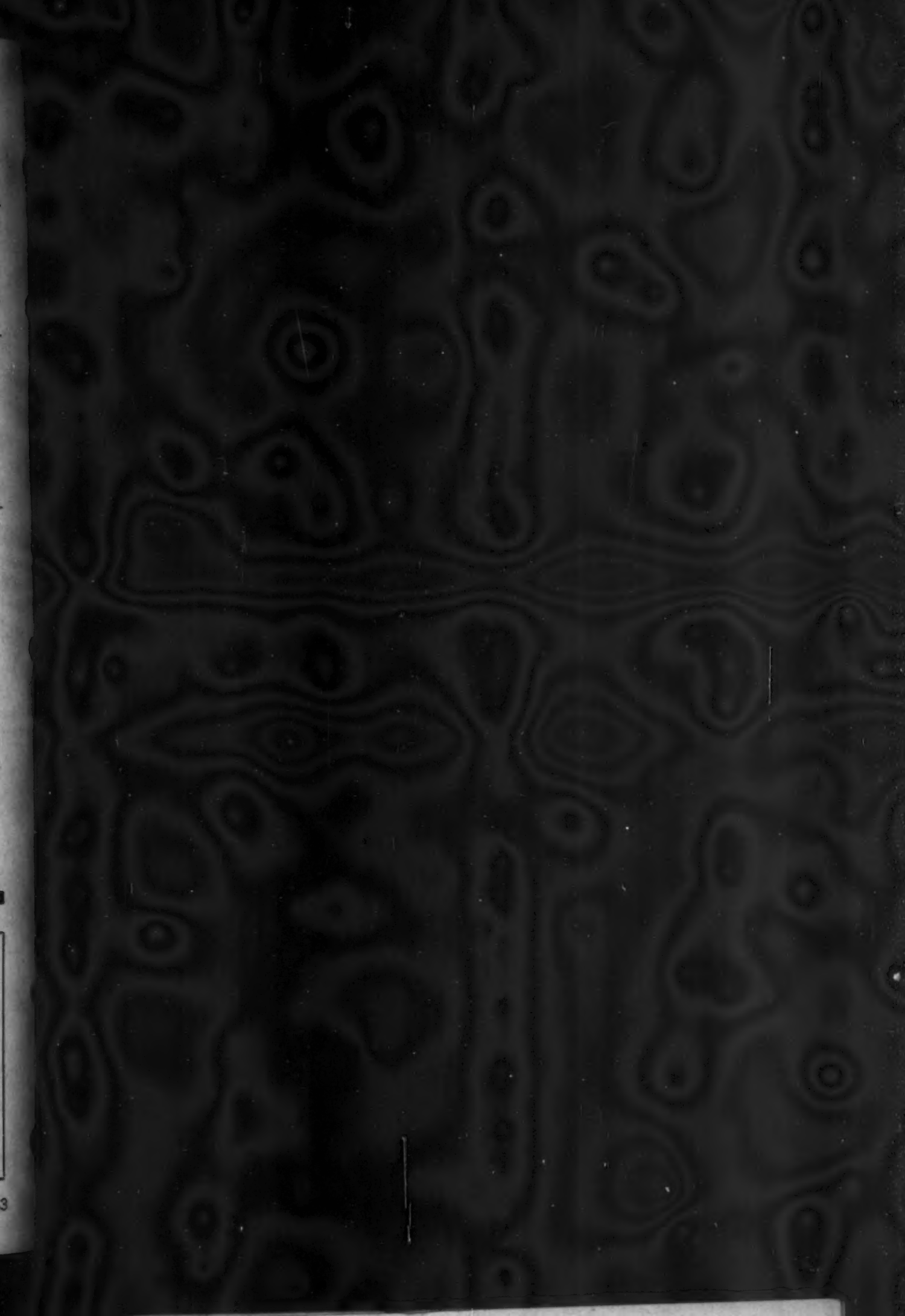
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Off the Editor's Chest

[Continued from page 2]

is not difficult. Although it is expensive to make one's own butter from cream bought at the store, it does not require any of the precious meat ration points that give one a claim to a bit of meat, and cream, though scarce, is more generally available than butter.

It is difficult to discover just where the civilians' share of butter has gone. It has been estimated that civilians will get about 12 pounds per person per year from June 1943 to 1944. But like all statistics—none of which can be eaten—this one is unsatisfactory because distribution is so spotty that some people near the sources of supply will get all they care to spend ration points for, while others get considerably less. The Army in a carefully documented statement by Major General E. B. Gregory, Quarter-

master General of the U.S. Army, pointed out that if the Army used no butter at all and turned its entire requirements over for civilian use each person in the country would have only one-half an ounce more per week than the present supply permits him.

Lend-Lease Authorities, too, are quick to point out that *their* purchases work little hardship on the consuming public. The inescapable conclusion is that there has been some inexcusable stoppage of the flow of a much desired commodity from producer to consumer. The dam appears to be the unworkably low price at which butter is pegged. One solution might be to take a Gallup poll asking a representative cross-section of the population whether they would prefer to pay more and *have* butter, or to save a few

dollars on their yearly budgets and obtain butter with difficulty, delay, and standing in line, if at all.

Like the king who can do no wrong, an alphabet agency can never admit a mistake, so that probably such a democratic solution to the problem as asking consumers what they really want would never be applied by those in high governmental positions. Perhaps the only course open to the consumer who likes butter is to murmur plaintively with A. A. Milne:

"Nobody,
My darling,
Could call me
A fussy man
BUT

I do like a little bit of butter to
my bread."

At this point we are reminded that the government *wants* us to eat more bread and less meat.

Excessive Charges for Servicing of Oil Burners

IT HAS BEEN brought to CR's attention that there have been many cases of gross overcharging for the servicing of domestic oil burners. Maximum prices have been set for the repair and maintenance of practically all domestic oil burners, and there are limits, too, upon the prices that may be charged for repair parts. Dealers are not permitted to charge higher than their March 1942 price for a given service or repair job to a purchaser in the same class. The "ceiling prices" filed by a particular dealer are required to be available in his office for examination upon request during business hours, or may be examined at the local price and rationing board office. Consumers, however, must remember that dealers are not always at fault, for at present they are working under very difficult

Please Provide Postage for Reply

WE earnestly request that subscribers who write to CR asking for information, invariably enclose with their letters sufficient postage for reply, or a ready-addressed stamped envelope about 9½ x 4 inches in size. (This size of envelope is preferable to the small or business envelope of about 6½ x 3½ inches, in which we often find it difficult to place the needed enclosures.) ¶There is no objection to an inquiry written on a post card *provided* it is legibly written and not too crowded and that you will be satisfied with a post card reply. Post offices sell double or reply post cards that are mailed folded, for this purpose.

conditions caused by a shortage of trained help, extensive and complicated extra paper work required, restricted use of transportation facilities, materials, etc. Be sure that your request for his help is actually necessary. Twenty percent of service calls are said to be due to causes not actually calling for expert services, including such minor troubles as blown-out fuses, empty tanks, and thermostats that have been unintentionally set to the wrong temperature. Every householder should have a general idea of the parts which constitute his complete oil burner installation and the function each part performs. With this knowledge, he may be able to avoid the necessity of a service call where some minor trouble such as one of those briefly mentioned here is involved.



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